A Scheme FOR THE TEACHING OF ANATOMY.

BEING A PAPER READ IN OPENING A DISCUSSION ON THE TEACHING OF ANATOMY BEFORE THE ROYAL ACADEMY OF MEDICINE IN IRELAND.

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THE professional instruction of the medical student provides unlimited material for discussion and for legitimate differences of opinion, and of these the most acrimonious and the widest seem to centre around anatomy. Why this should be, it is not difficult to understand.

In the past anatomy was the only non-clinical subject taught practically, and naturally everything centred upon it. Anatomists taught not only the structure of the human body, but also its functions and its diseases. As knowledge grew and the subject became too large for one man to handle, the teaching of morbid anatomy passed into the hands of pathologists, and of function into the hands of physiologists. But in order to give the physiologist of that day enough work to do, and in order to allow him to earn from his students' fees something approaching a living wage, it was necessary for the study of microscopic anatomy to be treated as if it were a department of the study of function. In result, anatomy, shorn of much of its living interest, tended to become more and more a pedagogic exercise, and its most hopeful development appeared for a time to be as a sort of preliminary to surgery—a technical, but still a dead, preliminary. With the coming of anaesthesia and antiseptics the average surgeon concluded that it was no longer necessary for him to possess an accurate anatomical knowledge, and anatomy, no longer a preliminary to anything in particular, slipped more and more into the bog of pedagogy. No wonder the enthusiastic educationalist asked, "Why is anatomy allowed to occupy so much time?"

How appalling a subject anatomy was most medical men can testify. Arteries were alleged to possess minute branches, which could never be found in the dissecting room, and these had to be learnt painfully from books, and, with a host of other unconnected details, fixed in the mind by "tips" about the disappointed lover; salasap; lazy students; the inflictions of Timothy or Turner; twenty-two, twelve, eleven; the triangles based on Sisp; and all the rest of it. Then came formalin and methods of hardening and all the sorrows they brought in their train, facets on the kidney, right-angled triangular prismatic livers and tetrahedral spleens. And anatomy sank deeper and deeper into the bog of pedagogy. It was almost as dead as the material it pretended to describe; and then came the stirrings of the new life which is now driving it forward to its rightful place in the scientific education of the physicians and surgeons of to-morrow.

No longer hampered by absurd and absolutely artificial boundaries, anatomy claims that it is the science of the structure of all living things, both plants and animals; and human anatomy, a small compartment of anatomy, that it is the science of the structure, both macroscopic and microscopic, of the human body, of the origin and development, the relations, correlations, and variations of the tissues and organs ancestrally, racially, and individually considered. Its place in the curriculum of the schools is no less clearly defined. Standing as it does at the very commencement of medical study, it claims that it is its primary function to instil habits of accurate observation and scientific thought into the minds of medical practitioners in making, utilizing as its machinery the study of the architecture of the human body. Simultaneously it lays the foundation of technical knowledge upon which the physiologist, pharmacologist, pathologist, and clinician will build.

To secure these ends didactic teaching is worse than useless, and dissection, although it is and must always be the backbone of anatomical study, by itself insufficient. If carefully supervised, dissection teaches much, but little if students are left to work out their own salvation. At best it confers familiarity with the macroscopic structure of the tissues and organs of the body, and serves as an introduction to the study of the interrelations of the organs. From dissection each may learn to act for and to rely upon himself and to see things as they are, not as authorities say they are. It is much for a student of medicine to learn the fallibility of the printed word. But from dissection alone it is hard to gain a conception of the stereoscopic relation of the elements which have been dissociated. It is still harder for a student, in the time at his disposal for the study of anatomy, to appreciate the range of individual variations, the sexual and age differences in relation and structure, and the meaning which these variations and differences possess. Dissection, therefore, requires to be supplemented. Rather than beat the air discussing what this supplementation might be, I shall describe the course of anatomical study pursued by medical students working in the Schools of Surgery, R.C.S.I., for the Second Professional Examination of the Conjoint Board in Ireland. It is arranged as follows:

A.—COURSE FOR FIRST YEAR STUDENTS.*

This, in my opinion, is the most critical course in the whole curriculum. By its success or failure the whole outlook of each student is permanently affected.

The principle upon which it is based is to work from the known to the unknown. We do not confine ourselves to descriptive anatomy; all the teaching given in it deals with function as well as with structure. In other words, it is a preliminary course both to anatomical course B, the course for second year students, and to the course in physiology which also comes in the second year. The first six months of it are also preliminary to the course in histology which is taken out in the first summer, but which is so weighted by the necessity of teaching histological method in preparation for pathology and clinical side-room work that it cannot hope adequately to deal with structure unless the students who attend the course are to some extent already familiar with its details.

At the commencement of this first-year course in anatomy about one-half of the students are wholly ignorant of biology; the other half have already studied and have passed the first professional examination in this subject. It is practically safe to ignore this difference. Even those who know their biology well can derive much benefit from what is for them to some extent a revisal course, while those who still have to study biology are given a sure foundation.

The course, therefore, starts from the very beginning. This is best effected by commencing with a short series of introductory demonstrations. In these the effort is made to fix the student's point of view, to instil into the minds of each of them that it is the thorough performance of daily work that matters, and that examinations are a mere episode in an orderly progress towards knowledge and not a goal.

Further, the attempt is made to teach in a somewhat general way the denotation and connotation of the names of the common tissues and structures—for example, cartilage, bone, ligament, artery vein, lymphatic. This occupies about five hours.

Section 1: Classes Limited to Twelve Students.

The first section of the course proper is entirely practical and deals with the surface and palpable anatomy of the body. In it all the teaching is done upon the body of a living model, and is illustrated by such wax and plaster models and natural specimens, both macroscopic and microscopic, as are requisite.

The regions of the body are first discussed, and these are described by their popular names, their technical names being introduced later. When this is mastered, the study of the skin, hair, and nails is taken up, and every point is practically demonstrated by the teacher and by each student upon the surface of the body. This completes the first section. Time available, five hours.

Section 2: Classes Limited to Twelve Students.

The second section of the course is designed to introduce the study of the framework of the body. It is conducted generally as follows:

Each student examines the shoulder region of a rather thin living model, and demonstrates upon the skeleton the

*The courses described in the text are those given during the session 1911-12, with one or two minor modifications which experience has suggested as advisable. These have been adopted for the courses 1912-13.

bones that he can feel under the skin. He then picks out from a pile of bones a clavicle and scapula of the side under observation. These he places in proper position, guided entirely by his palpation of the model. He checks his placing of the bones by reference to the skeleton. Next he demonstrates to the teacher which parts of the bone he can feel and which he cannot feel. By examination of a dissection of the region he is guided to discover what prevents him from palpating certain parts of the bone. This introduces him to the study of muscles, which he has already heard of in the introductory demonstrations.

In this way the regions of the shoulder, arm, and forearm are studied. The next step introduces the idea of the muscles moving the bones. This in turn introduces the student to the further idea of joints, which are explained to him carefully, but the specific examples of the shoulder, elbow, and radio-ulnar joints are not at this time departed from. Throughout, no structure is mentioned that is not shown to the students and handled by them, and no movement is spoken of that is not fully demonstrated upon the model and performed by the students themselves. Time available, five hours.

During the progress of this section of the course the work of dissection is commenced (*vide infra*).

Section 3: Classes Limited to Twelve Students.

The third section of the course is devoted to the detailed study of the framework of the body. It is conducted as follows:

One long bone—for example, the humerus—is taken. Macerated specimens are first considered and the surface texture of the various parts discussed. The bone is then studied in section. When this is completed the microscopic structure of compact and cancellated bone is dealt with. Next a recent specimen is considered, and the marrow, periosteum, and articular cartilages studied by the students. Next a series of young bones is dealt with and the whole question of the relations of cartilage and bone considered. At this stage cartilage requires to be studied microscopically. Next the different types of epiphyses require to be dealt with. In the study of the joint epiphyses it is best to consider those of the knee-joint region, because there the problem is simplified. The lower femoral and upper tibial epiphyses are treated as together constituting a joint unit, which "joints" immovably with the femoral shaft above and the tibial shaft below. This introduces the immovable class of joints.

The epiphyses throughout the body are next demonstrated by means of *x*-ray projections, and their distribution in the region of joints and of the insertion of powerful muscles insisted on.

Once the students know what bone and cartilage are, and what a bone in the living body is, and what epiphyses are, they are in a position to commence the detailed study of the framework of the body. This is conducted by a continual process of cross-reference between the living model and the skeleton, the *x*-ray projection, the macerated bone, and the recent bones of adults and young persons.

The shapes of the articular surfaces of adult bones are discussed in connexion with the range of movement possessed by the joint they form. To fix the shapes of these surfaces in the minds of the students recourse may be had to modelling in clay. It is waste of time to make the students model whole bones. It is not found to be desirable to study completely the ligaments of the joints at this time. The complete study of these, which is undertaken in the second year, provides an opportunity of revising many facts in connexion with the framework of the body. The time devoted to this section of the course is about fifty-five hours.

Section 4: Class not to exceed Fifty.

The fourth section of the first year's course runs concurrently with Sections 1, 2, and 3. It grows naturally out of the introductory demonstrations, and is devoted to a study of the abdominal and thoracic viscera. It is designed to lay the foundations for the physiological work of the second year, and to prepare the students for the dissection of the thorax and abdomen. In its general arrangement it describes structure from the point of view of function. It consists of a series of lecture demonstrations in which the students can handle every structure described. It is freely illustrated by means of the episcope and projecting microscope. The time available for this is about thirty hours.

Section 5: Class Unlimited, One Demonstration for every Twenty Students.

The fifth section of the first year's course is devoted to the dissection of the limbs of an adult and a child. One hour in each day is particularly devoted to supervised dissection. The remainder of the time available is utilized for the careful cleaning of structures exposed, and to the study of the stereoscopic relations of parts by means of transverse and longitudinal sections. The time available for the work of this section and for the private study in the laboratory of the subject matter of Sections 1 to 4 is about 300 hours.

In summary, Course A, First Year for Medical Students, is arranged as follows:

INTRODUCTORY DEMONSTRATIONS	5 hours.
SECTION 1 (Introductory).—The study of the surface of the body	5 hours.
SECTION 2 (Introductory).—The recognition and study of structures which can be felt from the surface of the body	5 hours.
SECTION 3.—Detailed study of the framework of the body	55 hours.
SECTION 4.—The study of the abdominal and thoracic viscera...	30 hours.
SECTION 5.—Dissections: The limbs of the adult and the child	300 hours.
Total	400 hours.

Note 1.—The 300 hours nominally allotted to Section 5 include time devoted to the private study in the laboratory of the subject matter of Sections 1 to 4.

Note 2.—The total of 400 hours is an average total. It is exceeded by all the better students. At the end of this course each student is expected to be familiar with:

(*a*) The surface of the body and all the bones palpable therefrom.
(*b*) The structure of the skin, hair, and nails.
(*c*) The framework of the body, including its post-natal development, but excluding the ligaments.
(*d*) The anatomy of the limbs and the stereoscopic relations of their parts.
(*e*) The viscera of the thorax and abdomen as such and their physiological relations. (This implies a general knowledge of the physiology of the respiratory, circulatory, and alimentary systems upon which the physiologist can build.)
(*f*) The microscopic structure of all structures studied. (This is intended to reduce the load thrown upon the class of histology conducted by the physiological department concurrently with the latter part of the first year class of anatomy.)

B.—COURSE FOR SECOND YEAR STUDENTS.

This is an easier course to arrange than Course A. It runs concurrently with the course in physiology and succeeds the course in histology. Further, the students are possessed of some self-reliance and initiative. It is therefore advisable to entrust them more with the work of self-education. Five hundred hours are allotted to it in the scheme; in practice this total is exceeded by the better men.

Following the principle laid down for Course A, it works from the known to the unknown.

Section 1: Class Unlimited.

This section of the course repeats to some extent the first year work upon the framework of the body, but it deals more fully with its mechanism and growth. Number of hours required about twenty.

Subsection a: Classes Limited to Twelve Students.

In this subsection of the course groups of students are taught practically the details of the joints and study for themselves the facts demonstrated in the unlimited class. Time allotted, twelve hours.

[NOTE.—This is in addition to the dissection of joints made by the students in the dissecting-room.]

Subsection b: Classes Limited to Twelve Students.

In this subsection the cranial bones are studied by small groups of students under supervision. This class is regarded as a guide to and a check upon private work. Time allotted, five hours in half-hour periods.

Both subsections (*a*) and (*b*) are conducted as round table conferences.

Section 2: Class Unlimited; Lecture Demonstration Class of Systematic Anatomy.

In this section the attempt is made to place at the disposal of the students a greater anatomical experience than they can possibly acquire in the dissecting-room. Each of the systems except the nervous system is demonstrated in detail, individual, age, and sexual variations being especially considered. The epidiascope and projecting microscope are freely employed. Nothing is described without being demonstrated, except certain of the variations of which no specimens exist in the teaching museum. These are illustrated by lantern slides. Time allotted, seventy hours.

Note.—The demonstrators are particularly required to demonstrate in the dissecting-room to groups of the class the facts dealt with in the lecture demonstrations.

Section 3: Practical Classes Limited to Twelve Students; Lantern and Model Demonstrations Unlimited.

This section deals with the anatomy of the nervous system, and is conducted two-thirds practically, and one-third by means of lantern demonstrations. The practical work is done under direct supervision, and deals with the macroscopic structure of the brain and spinal cord. The lantern and model demonstrations deal with the tracts of the cord and brain, with the segmental distribution of the spinal nerves and with the sympathetic system. Time allotted, thirty hours.

Section 4: Class Limited to Twelve Students.

This section consists of a short series of demonstrations upon the models of the organs of special sense, and is regarded as ancillary to the work of the dissecting-room. Time allotted about five hours.

Section 5: Class Unlimited.

This section comprises the main part of anatomical study in the second year—namely, the work of dissection. The work of the demonstrators chiefly is to ensure the balanced study of the student's own dissection and of the frozen sections provided. The object of this is to develop a sense of the stereoscopic relationships of organs. The students are at first to be helped to make graphic reconstructions for their own information, and then left to do so themselves. Their results alone are supervised. Quizzing students over "parts" is absolutely forbidden.

In short, the students are shown methods and left to make their own use of them under a general guidance.

Section 6: Classes Limited to Twelve Students.

This section deals with topography and the projection of internal organs upon the surface of the body (surface anatomy). It is limited to ten hours, and is regarded as the final drawing together of the facts already learnt, so that they may be conveniently fixed in the mind for clinical use.

In addition to attending each of the six sections detailed, each second year student is invited to write once a week a brief report upon some selected anatomical specimen, group of specimens, or subject. The majority of the second year students regularly respond to the invitation. These reports are carefully considered, corrected, amplified, and returned to the students writing them.

Summary of Course B.

SECTION 1.—The framework of the body and its mechanism (to connect with first year work)	20 hours.
Subsection (a).—Arthrology	10 hours.
Subsection (b).—Osteology of the skull ...	5 hours.
SECTION 2.—Systematic anatomy	70 hours.
SECTION 3.—Neurology	30 hours.
SECTION 4.—Organs of special sense ...	5 hours.
SECTION 5.—Dissection and study of sections	350 hours.
SECTION 6.—Topographical anatomy ...	10 hours.
Total	500 hours.

At the end of this course each student is expected to have acquired sufficient knowledge of the structure of the body for technical purposes, and, more important, to have acquired habits of accurate observation and self-reliance. Those who have not are infallibly weeded out by the practical parts of the pass examination. The percentage of such failures is, however, small, and in normal years does not exceed 10 per cent.

The courses outlined above are designed for students who are candidates for the Conjoint Licence. All the better students now go on to undertake the work required for the Primary Examination for the Fellowship of the Royal College of Surgeons in Ireland. In addition to the requirements for the Second Professional this examination demands a fair working knowledge of human embryology, and more especially of those processes of prenatal and postnatal development which if incomplete give rise to abnormalities requiring surgical interference or medical advice.

The Advanced Anatomy Course comprises a course of special dissections spread over a period of three months and forty meetings of one and a half to two hours, including lantern demonstrations, demonstrations of models, discussion of series of human and mammalian embryos, etc., and is a most important part of the anatomical training of the student.

The subjects discussed in the last course were:

1. Human Ovum.
   Human Spermatozoon.
   Segregation, Growth and Maturation of Ovum and Sperm (including homo- and hetero-typical karyokinesis).
   Ovulation.
2. Fertilization of Ovum.
   Division of Ovum (Bilateral symmetry).
   Implantation of Ovum.
   Menstruation. Time relations of foregoing to.
3. Delamination (Gastrulation).
   Yolk-sac, Allantois and Body Stalk.
   Placentation (early).
   Role of Yolk-sac and Allantois.
4. Growth of Embryo and Amnion.
   Formation of Flexures.

   (Spherical form changing to Tubular Form. — Concurrent consideration of growth of embryo and maternal adaptations for supply of nutriment to it.)

   Primitive skeleton, chorda dorsalis.
   Early divisions of Coelom.
   Segmentation of Mesoderm of Trunk.
   Mesoderm of Head. Head Cavities. Pericardium.
5. Differentiation of External Form.
6, 7, 8. Differentiation of the various systems during the first three weeks, including ductless glands.
9. The Central Nervous System, Development and Malformations.
10. The Heart, Development and Malformations.
11. Recent advances in the knowledge of the Heart Structure and Mechanism.
    The Auriculo-Ventricular Bundle.
12. The Great Arteries and Veins, Development, Malformations and Variations.
    The Aortic Arches.
    The Arterial Buds.
    The Venous Trunks.
13. The Lymphatic System, Development and Variations.
14, 15. The Arrangement of the Lymphatics of the Body.
16, 17, 18, 19. The Alimentary System, including the Digestive Glands, Development and Malformations.
20. The Arrangement of the Visceral Moorings of the Abdomen in the Adult and during Development.
21. The Anatomy of the Abdominal Wall with special reference to Hernia.
22. The Factors determining Variations in the Topography of Viscera.
23, 24. The Urogenital System and Cloaca, Development and Malformations. Sex Homologies.
25. The Pericardium, Pleura, and Peritoneum, Development and Malformations.
26. The Mechanism of Respiration.
    Sex Variations, etc.
27. The Head Skeleton, Development in Relation to Brain and Sense Organs.
28. The Axial Skeleton and Limb Skeleton, Development and Variations.
29. The Theory of the Limbs.
30. The Segmental Development of the Central Nervous System.
31. The Anatomical Basis of Referred Pain.
32. The Mechanism of the Erect Attitude:
    Spinal Column and Pelvis.
    Hip and Knee Joints.
    The Foot, Stability and Mobility.
33, 34, 35, 36, 37, 38, 39, 40. The Surface Anatomy of the Body, including the Visible and Palpable Anatomy of the Accessible Cavities of the Body.

But even after this course the training of the student in the architecture and composition of the body should not be regarded as complete. It is the duty of the physiologist, the pathologist, and the clinicians to carry on and to develop the student's knowledge of man's body. It is

quite impossible for the teachers of anatomy in two short years to turn raw boys into anatomists who know everything about structure, or, indeed, know all the details of structure which possess definite clinical and pathological significance.

During the first year a student learns slowly; he is in a new world, and unfortunately his whole school training has too often had the effect of unfitting him to adjust himself readily to that new world. When he starts his anatomical study the average freshman is absolutely ignorant of everything beneath the skin. The heart?—a blank. The brain?—another blank. The circulation?—the word is meaningless. Muscle?—no conception that flesh is muscle. But that is not all. New methods of learning have to be brought into play; fingers, eyes, and nose have to be educated. Words, words, words are too often the weapons of the boys' school; but in spite of all the words they have suffered from, most students have to be taught how to use words accurately. A sense of form has to be inculcated. In short, anatomists are educationalists rather than technical instructors. They prepare the site and lay the foundations upon which the clinicians, pathologists, and physiologists rear the temple of medical knowledge.

In conclusion, just two questions to the clinicians:

1. Would it not be a great help to students if all clinical teachers took the trouble to learn at least one recognized name for each structure in the body, instead of making use of local or fancy names that are not to be found in any standard work?

2. Would it not be a great help to students if all clinical teachers were quite sure that the structures they describe at great length are of importance, and in fact really exist?

Remember that, though pedagogic anatomy is dying, it was full of vigour a short time ago, and that some of the things that the clinicians of to-day learnt yesterday when they were students were purely pedagogic in origin. It is no use beating about the bush. Some clinical teachers badger students about wretched little pseudo-anatomical, pedagogical points, and suggest that any student who does not know these alleged facts knows no anatomy. The bewildered student comes to the anatomist and asks with superficial innocence, What is So-and-so? The real answer to his question not infrequently is the single word "Rubbish." But anatomists have to be moderately tactful even in their appeal to reality. "Would it not be a good thing to dissect it out for yourself and really see?" is what they usually say. And two days later the student begins to doubt if the clinician is quite such an authority as he has announced himself to be. After two or three attempts to find what his clinical teacher has described as an essential and a touchstone of knowledge, the student's growing scepticism blossoms into certainty that the clinician was simply talking, and another teacher's reputation vanishes in a blaze of blasphemy. It is a way medical students have.

GOVERNOR DIX of New York recently signed the bill passed by the Legislature providing for the sterilization of certain classes of male criminals and defectives confined in State institutions. The new law, says the *Medical Record* of April 27th, which is in the form of an addition to the public health law, creates a board, to be known as the Board of Examiners of Feeble-minded Criminals and other Defectives, to have supervision over the matter, the board to be made up of one surgeon, one neurologist, and one other medical practitioner, each with ten years' experience. If, after examination, this board decides that an inmate of the class affected by the law would transmit to his offspring a tendency to crime, insanity, or feeble-mindedness, or that his own mental condition would be improved thereby, it is to appoint one of its members to perform the necessary operation. The law applies to those who have been convicted of rape or of such a succession of offences as the board may consider to afford sufficient evidence of confirmed criminal tendencies. The operations of the law are safeguarded by the provisions for a judicial review of the findings of the board before any operation is performed, and no order of the board can become effective until it has been on file for five days. Careful records are to be kept of the effect of the law's application. New York is the sixth State to adopt such a law, New Jersey and Illinois being among those in which such action has already been taken.

An Address

ON

PYELONEPHRITIS OF PREGNANCY.

DELIVERED BEFORE THE STRATFORD DIVISION OF THE BRITISH MEDICAL ASSOCIATION.

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PYELITIS or pyelonephritis of pregnancy is a condition that has been recognized only comparatively recently, and some textbooks published within the last seven years contain no reference to it. Twenty years ago (1892) Rebland reported 6 cases. During the last ten years a large number of papers on the subject has been written and many cases have been recorded, and it is gradually being recognized that the condition is common. Although not often causing danger to life, it may cause so much pain and impairment of health that its early recognition and treatment are important.

Symptoms and Physical Signs.

The symptoms usually begin during the second half of pregnancy, and vary greatly in severity. In some cases there is only aching in the lumbar regions with no constitutional disturbance. I believe that cases in which there are no acute symptoms are comparatively common. I see them fairly often in the out-patient department. If they are unrecognized, and therefore untreated, the patient undergoes a considerable amount of pain and discomfort, which might be relieved fairly easily.

The symptoms in more severe cases are pain in the loins and lower abdomen, sometimes very severe, with acute exacerbations, suggesting renal colic, and accompanied by vomiting. The pain may be so severe that the patient's sleep is interfered with to a serious extent. It may be impossible to say whether the affected kidney is enlarged or not, the presence of the pregnant uterus rendering palpation of the kidney regions difficult, but tenderness of one or both kidneys and tenderness along the course of the ureters is found on pressure. In some cases there is little impairment of general health and nutrition; in others the patient is obviously very ill. The temperature is usually raised, and there may be a high degree of pyrexia, usually with oscillations, and rigors may occur. The pulse-rate is, of course, rapid when there is much pyrexia. On vaginal examination the intrapelvic portion of the ureter may be found to be tender, and if there is cystitis the base of the bladder is tender to the touch.

Micturition may be frequent and painful. The urine is usually acid, and on superficial examination, even when severe symptoms are present, it may show little that is abnormal. After it has been allowed to stand for some time, however, or after centrifugalization, a deposit of pus is found. Sometimes there is a very large amount of pus, but pus may be almost or entirely absent on a single examination. It is possible that the occasional absence of pus may be accounted for by temporary blocking of the ureter on the affected side. Bacteriological examination reveals the presence of micro-organisms, most commonly the *Bacillus coli communis* or a "coliform" bacillus. Recurrence in subsequent pregnancies is common.

Etiology.

There is no consensus of opinion as to the method of infection of the kidney. The most obvious suggestion is that there is an ascending infection from the bladder—that is, a cysto-uretero-pyelonephritis, and there are a good many points in favour of this view.

Cystitis is certainly more common in women than in men, and often exists in pregnant women without its presence being suspected, frequency of micturition and discomfort being explained as results of pregnancy. Engelhorn examined the urine of 35 pregnant women and found it sterile in only 14 cases. In only 10 out of the 21 cases in which the urine was not sterile were there any symptoms of cystitis.

Dilatation of the ureters undoubtedly occurs fairly often in pregnancy, as is proved in *post-mortem* examinations of cases of eclampsia, and when present will favour ascent of micro-organisms from the bladder. This dilatation may be caused by the pressure of the uterus at the pelvic brim. The right ureter is more commonly pressed on by the uterus than the left, as it lies rather farther from the middle line and so gets less protection from the projecting promontory of the sacrum.

Pilcher is of opinion, from cystoscopic examination, that obstruction to the flow of urine along the ureters is due to a distortion of the vesical portion of the ureters in the middle months of pregnancy. In some cases he found that the bladder was pressed down from above by the pregnant uterus so that the ureter was made to bend sharply at the point of its entrance into the bladder, or was kinked in its passage through the bladder wall. In other cases compression of the bladder from before backwards also offered the possibility of distortion of the ureters. The presence of this distortion was proved by catheterization of the ureters. The rate of flow of urine through ureteric catheters was increased 15 to 20 times when the patient was raised into a sitting position.

Mirabeau considers that cystoscopic evidence proves that dilatation of the ureters in pregnancy is due not only to their compression against the brim of the pelvis, but also to pressure exerted by the swollen mucous membrane of the bladder. Saurage holds that compression of the intra-pelvic portion of the ureter can cause kinking in the upper portion and that such kinking may cause permanent obstruction to the flow of purulent urine.

D. J. Evans says that in cases of pyelonephritis of pregnancy dilatation of the ureters is invariably present. Kendirjy believes that compression of the ureters by the uterus and the consequent dilatation of the ureters and the pelvis of the kidney is the cause of pyelonephritis. He quotes Olshausen as having found dilatation of the ureters in pregnancy in 25 cases out of 34, Löhlein in 8 out of 32, and Pollak in 35 out of 130. Opitz looks on the lower part of the ureter as containing a stagnant column of urine. He quotes experiments of Guyon and Albarran on animals, showing that when a stagnant column of urine is present in the ureter there is really a free communication between the bladder and ureter, so that organisms can pass upwards without any obstruction being offered by the valve-like opening of the ureter.

However, if dilatation of the ureter is accepted as a factor in the development of pyelonephritis, it is not necessary to postulate the presence of a column of stagnant urine to explain the ascent of micro-organisms from the inflamed bladder to the kidney. The researches of Bond of Leicester, recorded a few years ago at the annual meeting of the British Medical Association, show that micro-organisms may travel along the mucous membrane of the ureter against the stream.

The main objection to this obvious suggestion, that the cause of pyelonephritis of pregnancy is ascent of micro-organisms from an inflamed bladder along a dilated ureter to the kidney, is that in the majority of cases there is no cystitis present. Many observers are agreed on this point while admitting that pyelonephritis occurring during the puerperium may arise from cystitis. However, Engelhorn's evidence, quoted above, shows that absence of clinical signs and symptoms of cystitis is no proof that the bladder does not contain micro-organisms.

The explanation which receives most support is that which accepts the fact that there is some dilatation of the ureter and pelvis of the kidney, but attributes the origin of the micro-organisms to the blood or bowel rather than to the bladder. The renal epithelium is damaged partly as the result of increased pressure from below and partly from toxaemia of pregnancy, that is, its resistance is lowered.

C. B. Reed does not agree that pyelonephritis of pregnancy is due to urinary stasis from compression of the ureters by the growing uterus, and infection by micro-organisms through the systemic channels or by ascent from the lower urinary passages, but considers that pyelonephritis may be regarded as a distinct disease of gestation due to degenerative changes in the renal epithelia or parenchyma from transudation or excretion of toxins of pregnancy together with bacterial invasion, probably of vesical origin.

The frequent occurrence of constipation during pregnancy may explain the entrance of the *Bacillus coli communis* into the pelvis of the kidney. The close relation of the ascending colon, often containing an accumulation of faeces, to the right kidney is held by Mirabeau to account for the frequency of right-sided pyelonephritis. Cumston suggests that there may be an exalted virulence of the colon bacillus due to some gastro-intestinal disturbance. It must be remembered that a statement made by the patient that the bowels are open regularly is not inconsistent with the presence of chronic constipation. The bowels may be open daily, but each evacuation may be a day or two late.

Diagnosis.

From consideration of the symptoms it will be seen that diagnosis of the condition may be simple and easy. In other cases it may be difficult, usually, however, because pyelonephritis is not thought of. Suspicion of the presence of pyelonephritis should always be raised by complaint of pain in the abdomen, loins, or back, or by pyrexia during pregnancy. If the pain and tenderness are confined to the right side appendicitis may be wrongly diagnosed. I have known a case in which the appendix was removed before the correct diagnosis was made. Sometimes enteric fever has been diagnosed, also other gastro-intestinal troubles and influenza. In some cases which were at first thought to be pyelonephritis of pregnancy it has been proved later that a renal calculus was the cause of the trouble.

As a rule, careful abdominal and vaginal examination, and examination of the urine, if necessary on more than one occasion, including bacteriological examination, will leave no doubt as to the correct diagnosis.

Treatment.

Almost all writers on the subject are in agreement that the treatment of pyelonephritis of pregnancy should be as conservative as possible.

The general treatment consists of rest in bed, milk diet with plenty of harmless fluids to drink, and regulation of the action of the bowels. Violent purgation must be avoided as being likely to cause miscarriage. Some authorities advise administration of small doses of calomel—for example, grain $\frac{1}{6}$ t.d.s.

More special treatment includes administration of diuretics, and urinary antiseptics, alteration of the reaction of the urine, etc. Diuresis is secured by administration of infusion of buchu and sometimes by digitalis. Several writers mention distension of the bladder as causing a reflex diuresis. I have no experience of this method of treatment. The most popular urinary antiseptic is urotropin, grains xv to xxx of which may be given daily. As the organisms are growing in an acid medium the urine should be rendered alkaline or neutral. This is done by administration of potassium citrate, grains xx to xxx t.d.s., or of alkaline waters. Antitoxin treatment has been tried with good results (Dudgeon quoted by Thomson Walker). Results of vaccine treatment are disappointing, at any rate in acute cases.

Pain is treated by warm applications to the loins, and if necessary to the abdomen, by administration of tincture of hyoscyamus mxxx t.d.s., and by posture. Sometimes great relief is obtained by having the foot of the bed raised 1 or 2 ft., while in other cases a sitting posture may be found to give relief. As a rule the pain soon yields to treatment.

Interruption of the pregnancy should be avoided if possible, and expectant treatment always given a fair trial. Some writers emphasize the increased risk of puerperal infection on account of the septicity of the urine, but in Legueu's 52 cases there was no puerperal sepsis. If both kidneys are affected, and the condition does not yield to medical treatment, and the patient's general condition is going from bad to worse, it may be necessary to empty the uterus.

Surgical treatment, nephrotomy (which is seldom called for in pyelonephritis of pregnancy), does not come within the scope of this paper.

I have collected the records of 19 cases treated in the wards of the London Hospital.

The average age was 26.

Eight of the patients were primigravidae; 9 had been pregnant before.

The average time at which the trouble began was during the

sixth month, in 2 cases it began during the fourth, and in 5 cases during the fifth month.

In 6 cases the presence of constipation was noted. In 5 others it was stated that the bowels had been opened regularly.

In 8 cases the trouble was right-sided, in 8 cases the symptoms and signs pointed to an involvement of both kidneys, and in 1 case the left kidney seemed to be affected alone.

One patient gave a history of a similar attack in former pregnancy.

In 2 cases there was no rise of temperature. In all the others there was pyrexia, in 14 cases as high as 102° F., and in 6 cases as high as 104°. In cases where there were rigors, which did not occur as frequently as I had expected, the temperature sometimes reached 105° or 106° F.

The urine was acid in 18 cases, alkaline in 1.

In 13 cases bacteriological examination of the urine was made. In 7 cases the *Bacillus coli communis* was found, in 5 cases a coliform bacillus, and in 1 case *Streptococcus albus* and a diphtheroid bacillus.

The symptoms complained of were pain in one or both loins, pain and tenderness along the course of one or both ureters, sometimes pain at the end of micturition, sleeplessness on account of the pain, malaise, etc.

There was 1 case of spontaneous abortion at five months and there was 1 case of spontaneous premature labour. In the latter case the temperature became normal thirty-six hours after labour, and all the symptoms disappeared, although the urine still contained pus. The case in which miscarriage occurred was the only one in which the patient did not make a good recovery.

She was a primigravida, aged 32, five months pregnant. Both kidneys were affected, and the *Bacillus coli communis* was found in the urine. Miscarriage occurred four days after the operation of exploration of the left kidney, and the patient died the next day. At the *post-mortem* examination pyelonephritis was found on the right side, pyonephrosis on the left side, the kidney being a mere shell filled with pus.

Premature labour was induced only once:

The patient was a primigravida, aged 27, seven and a half months pregnant on admission. She had been ill at home for some weeks, with pain in the loins so severe that she screamed when paroxysms came on, and had been unable to sleep. Raising the foot of the bed gave immediate relief from the pain, she slept well, and her general condition improved a little, but the pain became so acute again that it was thought necessary to empty the uterus. The patient made a good recovery, but the child lived only a few hours.

In none of the other 17 cases was it found necessary to bring the pregnancy to an end or to resort to surgical treatment, medical measures—that is, complete rest in bed, diet consisting chiefly of milk, and administration of urotropin, sometimes potassium citrate, sometimes acid sodium phosphate, with vaccines in a few cases—freeing the patients from pain and pyrexia, though not always from pyuria.

The success of conservative treatment was well shown in the case of a multipara, aged 28. For the first five weeks after admission she had a high degree of pyrexia, the temperature reaching 104° F., and there were several rigors. The question of emptying the uterus was considered, but under medical treatment the temperature eventually came down and stayed down. About fourteen weeks after admission labour came on naturally at term, and both mother and child did well.

Pyelonephritis in the Puerperium.

In cases that occur for the first time during the puerperium the diagnosis may be difficult at first, mainly because pyelonephritis is not thought of. If it is always borne in mind in cases of pyrexia coming on at the end of the first week of the puerperium—that is, at a time when uterine infection is improbable, the correct diagnosis will be made fairly often. This was taught by Olshausen ten years ago. Pyelonephritis occurring during the puerperium is likely to be mistaken for puerperal infection of the uterus, especially in cases in which there is no complaint of pain.

In cases in which there is localized pain a wrong diagnosis of appendicitis or of salpingitis may be made.

The fact that in spite of high temperature with great oscillations for several days the patient's general condition remains fairly good, points to pyelonephritis rather than puerperal infection.

I have seen a case in which the correct diagnosis was not made for many weeks.

Ten days after a normal labour the patient became ill with a fairly high degree of pyrexia. No abnormal physical signs could be found, the uterus was well involuted, the lochia had almost entirely ceased, there was no evidence of any inflammatory trouble in the pelvis, there was no evidence of cystitis, and the urine was apparently normal. After a few days all the untoward symptoms subsided, and the patient got up and about. After a chill contracted when driving the symptoms returned, fever, sweating, and abdominal pain not specially localized. A normal appendix was removed without any benefit to the patient, and then, and not till then, was a deposit of pus found in the urine. With appropriate treatment all the symptoms disappeared and did not return.

A month or two ago I saw a patient who, after induction of premature labour, had no rise of temperature during the first six days of the puerperium. On the seventh day I was called to see her, as she had had a shivering fit and a temperature of 102° F. at 8 a.m. For twelve hours before this she had had great frequency of micturition. There had been nothing else complained of. No catheter had been passed since the confinement. The uterus was rather flabby, and larger than it should have been on the seventh day, but it was not tender, and the lochia were sweet and not unduly profuse. The urine contained pus, and I made a diagnosis of cystitis. In the evening of the same day the patient had a severe rigor, the temperature rising to 105° F. Two hours later, in spite of profuse sweating, the temperature was 106.8° F., pulse 160. The uterus was explored, and nothing was found in its cavity except a small fragment of inoffensive clot. She had had no urinary symptoms whatever during the day, and it seemed unlikely that pyelitis, with no tenderness to be felt in either kidney region, could produce this amount of pyrexia. The temperature next day was normal, and continued to be normal, but the right kidney became tender, and bacteriological examination revealed the presence of the *Bacillus coli communis*. The condition soon cleared up.

The occurrence of pyelonephritis in the puerperium emphasizes the importance of preventing retention during the second stage of labour and the avoidance of catheterization as far as possible after labour.

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THE ETIOLOGY OF THE EXCESSIVE VOMITING OF PREGNANCY.

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By most authorities it is agreed that the cause of the excessive vomiting of pregnancy arises within the uterus and acts through the nervous system, chiefly the sympathetic. Others consider that it is reflex, while some hold that a neurotic temperament is the cause. I have heard it stated that in the early months it is due to a neurosis, and in the later months of pregnancy to toxaemia. The various explanations may therefore be classified under three main groups: (1) Toxaemic; (2) reflex; (3) neurotic.

Toxaemic.

The toxaemic seems to be the most rational explanation of this complication of pregnancy, so that it may be considered first. The questions then arise, Where are these toxins produced, and by what channels do they act?

Dirmoser[1] has given what seems to me the most feasible explanation of the origin and progress of the toxaemic condition. He considers that the excessive vomiting is a reflex irritation of the sympathetic nervous system, commencing in the internal sexual organs, and through the secretory and motor fibres of the sympathetic leading to the production of changes in the biochemical processes, more particularly of the digestive tract, followed by atony of the gut and increased production and absorption of toxins in the gut. In the urine of patients suffering from this complication of pregnancy he found an increased amount of uric acid, aromatic sulphates, indoxyl, phenols,

etc., and also in certain cases urobilin, acetone, diacetic acid, etc. When the intestinal contents of these patients were administered to rabbits and mice the animals soon died, while the contents of normal persons were negative. The urine (catheter specimens) of the cases which have come under my notice was examined; in 11 the reaction for albumen was present, in 4 granular casts were observed, 6 gave the reaction for acetone, and in all cases the urea output was diminished.

Cazeaux[2] lays stress on the severe constipation associated with excessive vomiting; in my cases I found bad teeth present in all, in addition to constipation.

Williams[3] of Baltimore emphasizes the value of the ammonia coefficient of the urine, which is high in the toxaemic type, but if there are no manifest changes in the urine, he holds that the cause of the vomiting is reflex or neurotic.

Behm[4] refers the autointoxication to syncytiolysin, and thinks this theory proved by the cessation of vomiting with the cessation of pregnancy. He maintains that the toxins are produced in the periphery of the ovum and not by the metabolism of the fetus, thus explaining the excessive vomiting of the early months. He supports his theory by the excellent results obtained clinically by the administration of rectal salines.

Many years ago Smellie[5] wrote:

> Perhaps this complaint is chiefly occasioned by a fullness of the vessels of the uterus, owing to obstructed catamenia, the whole quantity of which cannot as yet be employed in the nutrition of the embryo; over and above this cause it has been supposed that the uterus, being stretched by the increase of the ovum, a tension of that part ensues, affecting the nerves of that viscus, especially those that arise from the sympathetici maximi, and communicate with the plexus at the mouth of the stomach.

Playfair,[6] about 150 years later, wrote in a similar strain regarding the cause of excessive vomiting. In the Hippocratic writings the cause is attributed to φλέγμα. Matthews Duncan[7] in 1879 had a fatal case of excessive vomiting in which, *post mortem*, was found acute yellow atrophy of the liver, which condition he suggested was a factor in the production of the vomiting.

Champetier de Ribes and Bouffe de Sainte Blaise[8] had a case in which *post-mortem* haemorrhages and areas of cloudiness were found in the liver somewhat similar to those found in eclampsia. They considered that the excessive vomiting was the result of intoxication due to hepatic insufficiency.

The *post-mortem* examination of the fatal case which came under my notice (BRITISH MEDICAL JOURNAL, July 8th, 1911), showed the liver to be enlarged with fatty infiltration, the spleen slightly enlarged, and the kidneys congested. There was a slight congestion of the mucous membrane of the stomach, with a small patch of superficial ulceration near the pylorus. Nothing abnormal was found in the brain.

Freund[9] thinks the source of the toxins is in the periphery of the ovum or corpus luteum or placenta, but as the toxins in the great majority of cases do not produce excessive vomiting, he advises looking for predisposing causes, such as anaemia, chlorosis, nervous diseases, etc. Giles[10] considers that there are three factors in the etiology: (1) Increased nervous irritability; (2) a local peripheral source of irritation; (3) a ready efferent channel for nervous energy (the vagi).

Reflex.

Displacement of the womb was held by Graily Hewitt[11] and others to be the commonest cause of the sickness of pregnancy, but Giles[10] states that out of 300 pregnancies, 200 had vomiting, and he found it difficult to believe that two out of three women had a displaced uterus. McClintock[5] met with several cases of retroversion of the gravid uterus where vomiting was not a prominent feature, and in some vomiting was entirely absent. Playfair[6] found that displacement was the exception in cases of excessive vomiting. Williams[3] states that displacement may occasionally be the cause, and considers this is proved by the fact that vomiting sometimes ceases immediately after replacement. I have assisted at two Caesarean sections where ventrifixation had been performed on both patients some years previously. In each case the uterus was so held down that at the operation the uterine incision was wholly on the posterior wall, as the anterior wall had taken no part in the uterine enlargement. In both cases there had been no excessive vomiting, and in each there was considerable uterine displacement, so much so that the children could not be born alive through the natural passages. I have had a patient with excessive vomiting and retroversion. The uterine displacement was left alone and the hyperemesis ceased with treatment.

Hydramnios and twins are also mentioned as causes. Copeman,[12] Cazeaux,[2] and others considered the cause often lay at the cervix, so that rigidity, deep tears, erosions, etc., should be attended to at once, the first-named by dilatation of the internal os, a procedure which, I think, would involve the risk of miscarriage. Bennet[13] maintains that where vomiting is excessive and obstinate there is almost always inflammation or disease of the cervix or a diseased uterus, and recommends the local condition to be energetically treated. Freund[9] records 3 cases in which the turbinals, especially the inferior turbinals, were enlarged and congested; by attending to the nasal condition, he states, he cured the hyperemesis. Giving careful consideration to the above alleged causes, is not one justified in regarding each as a coincidence merely?

Neurotic.

Williams[3] has cured several cases by a vigorous lecture on the dangers attending the induction of labour. V. Winckel[9] holds that hysteria is almost always the cause; but many women are hysterical, while the excessive vomiting of pregnancy is not common. Kaltenbach[14] considers hyperemesis gravidarum to be the exhibition of a latent neurosis, while others have satisfied themselves by the results of treatment that neurosis is a cause in many cases.

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FEVER IN THE NEWBORN.

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IT is customary to reserve the term "newborn" for an infant in the first week of life. I propose to use it somewhat less definitely, so as to include all infants in whom the cord is still attached to the navel, for it is in this respect that such infants differ from older ones. As a general rule the cord separates in seven to twelve days, leaving a healed surface. Sometimes the process of separation takes longer, or a raw surface may be left, which perhaps does not heal until two or three weeks after birth. During this period the infant is peculiarly liable to septic and other affections of the cord and navel. In the earlier days it may show abnormal effects of confinement, some of which are prolonged or even permanent—for example, asphyxia, atelectasis, cephal-haematoma, sterno-mastoid tumour, various injuries, intracranial haemorrhage, birth palsies, and ophthalmia. In addition the respiratory tract has to adapt itself to changes in temperature, and the alimentary system to undertake the digestion and absorption of food. Unsuitable diet easily and quickly induces serious illness. Many of the affections mentioned are associated with a rise of body temperature.

"*Fever*" means a rise of temperature of definite duration. The temperature should be taken in the rectum. In the newborn it is normally the same as, or slightly higher than, that of the mother. It generally oscillates about 99.5° F. (99° to 100° F.). Exposure, bathing, and lack of food quickly reduce it to 96° or 96.5° F., and it may not reach the normal level for three or four days—perhaps in twenty-four hours, perhaps not for ten days or even longer

in premature infants. It then ranges between 98° F. and 99.5° F., being slightly higher in the evening than in the morning. It is important to bear these facts in mind and to remember that the temperature range in the infant is unstable and easily upset. An occasional rise for a few hours has no special significance, but a daily rise or the persistence of a temperature a degree above normal is indicative of mischief. Fever in the newborn is frequently overlooked, for there may be no other sign of illness or evident cause of the fever, and the temperature of the baby is rarely taken unless it seems ill. Yet experience shows that the temperature is often raised, for a few hours to several days at a time, during the first ten days of life.

Inanition or Thirst Fever.

Some of these attacks of fever, occurring during the first few days after birth, have been called "inanition or thirst fever," because the temperature has subsided abruptly on the free administration of water or a plentiful supply of breast milk. It is also assumed sometimes that sepsis rarely produces fever before the fifth day of life, an assumption not supported by facts. I regard the evidence as opposed to the view that the cause is lack of fluid or of food, for few infants receive any great amount of either during the first two or three days, and yet fever is not common at this period. Probably the pyrexia is due to mild sepsis, and the ingestion of fluid, if curative, acts by inducing elimination of toxins. Some of these cases may be due to intestinal or renal irritation, the absorption of abnormal intestinal products, the swallowing of liquor amnii or vaginal secretions, nasal catarrh, etc.

Diagnosis.

The difficulty of diagnosis in pyrexia during the first few days of life can be illustrated by short details of a case:

A baby was born at term weighing 8 lb. 11 oz., after a difficult confinement: a high forceps case with considerable injury and left facial palsy. The babe was continually crying and sleepless, and thirty-seven hours after birth developed convulsions and a temperature of 104° F. Under treatment by chloral the child rapidly recovered, but there was slight fever for another four to five days.

Possibly the crying and sleeplessness, as well as the subsequent convulsions, were due to injury to the brain. At first I was afraid of a secondary encephalitis, but the rapid recovery and subsidence of the convulsions are opposed to such a diagnosis. On the other hand, meningeal haemorrhage is generally associated with a subnormal temperature. There was no evident cause of sepsis, although I incline to that diagnosis, and normal meconium was passed.

In another babe, weighing 5 lb. 12 oz. at birth, the temperature rose to 100° F., within forty-eight hours, and there was slight twitching. Next day it was 105° F., and the twitching increased. A few hours later the child became unconscious and grey, with gasping respirations, and passed a bad stool. He died in another three hours.

Here, too, the diagnosis was probably sepsis, perhaps of gastro-intestinal origin. The diet consisted of cream, lactose, and water. Labour was difficult, and had been induced two weeks before term, so there may have been cerebral injury.

Injury at Birth.

This is an evident explanation of a few cases.

Thus, a first child, born after a very difficult labour, had a little bleeding from the left ear. Twelve hours later, and again a few hours after that, he had some haemorrhage from the urethra. When I saw him, thirty hours after birth, he had a pulse rate of 144, very frequent respirations, and showed considerable bruising. He had passed no water for fifteen hours, and cried a good deal. Next morning, forty-four hours after birth, he was convulsed and refused to swallow. There was much sleeplessness and crying, pulse rate 144, temperature 100° F. Two days later the pulse was very irregular, and at times convulsions were continuous. The spasms were most severe on the right side. Undoubtedly the child was suffering with meningitis, from which he died on the sixth day of life.

But injury at birth may lead to death more indirectly, through setting up local gangrene.

A lady lost her first child from meningitis, fracture of the base of the skull being due to forceps, the child being over time. Her second labour was induced two weeks before term, and proved a difficult forceps case. The child had some bleeding after birth from the left ear and there was much bruising in front of it. Convulsions began on the twelfth day. Examination next day showed a black slough in front of the left ear, twitching on and off, and temperature 103.4° F. The cord had separated and the navel was healed. The child had been circumcised successfully. He was very lethargic and passed stools containing curds. There was a reasonable hope that the illness depended on intestinal irritation. The temperature fell rapidly, being nearly normal on the fourteenth day, and during the next five days progress was good. The temperature then rose to 109° F. on the nineteenth day. The stools were frequent and contained mucus. The gangrenous slough had separated but there was no sign of healing. The liver had enlarged considerably, the child's colour was bad, and twitching was frequent. Although the temperature subsided to nearly normal during the day it rose again to 104° F. at night and then fell gradually until death from asthenia six hours later. Lethargy and lack of vital reaction of the tissues were marked characteristics.

Sepsis.

Roughly speaking, sepsis is the cause of quite 50 per cent. of the cases of fever in the newborn. About 25 per cent. can be ascribed to gastro-enteric infection, but it is probable that many of these are really septic in origin and the alimentary affection purely symptomatic.

Various causes account for the remaining cases. We may leave out of consideration the occurrence of fever transmitted by the mother while suffering from some specific fever, malaria, or variety of sepsis. Such cases would be readily diagnosed by the medical attendant. The malarial parasite may be present in the blood at birth, yet not cause fever until some days or weeks have elapsed. My experience is that sepsis is the chief and most common cause. All the illustrative cases quoted have been seen in consultation. Patients of this type do not often reach the hospital wards.

The sources of septic infection are numerous. It may be antenatal, maternal, or congenital; natal, due to infected liquor amnii or vaginal secretions; or post-natal, due to dirty hands, scissors, ligatures, powders, dressings, bath water, sponges, flannels, etc. Often it is impossible to ascertain the portal or source of infection. Sepsis may occur, although apparently the strictest precautions have been taken throughout. It would be interesting to know the experience of the lying-in hospitals.

Occasionally the evidence of infection by the mouth is fairly conclusive.

Mouth Infection.—The mouth of a baby, 6 lb. in weight at birth, was full of meconium, and was possibly slightly damaged in the process of cleansing. She was partly fed on the breast, partly on the bottle. At 1 week of age she had lost 6 oz. in weight, and had stomatitis. When seen at the age of 10 days she had lost another 2 oz., and showed erythematous stomatitis, a general pimply rash, green stools, and temperature 100.2° F. In the evening the fever reached 104° F. She had never taken well or passed a good stool. Next day there was definite ileo-colitis, with frequent green mucoid stools. She lost weight rapidly, 10 oz. in five days, but recovered from the ileo-colitis in about a week. Death resulted from the effects of toxaemia and marasmus on the twenty-ninth day of life.

In a more remarkable instance the primary cause was apparently a pustular dermatitis, which came out first on the face on the fifth day and spread all over the body.

Pustular Dermatitis.—The child was born without difficulty, and weighed 9 lb. 3 oz. Twitching began on the seventh day. When seen on the ninth day she had attacks of spasm, mainly affecting the upper limbs, the arms being flexed and raised and the hands clenched. In severe attacks the whole body twitched. The stools were practically normal. There was a teat ulcer on the roof of the mouth. Next day the temperature rose to 105° F. There was much general twitching, most in the right arm and hand, and a little cyanosis in the worst attacks. The fever persisted at a comparatively high range for two weeks, and then came down, with big intermissions, to normal in another week. After this the spasms, which had persisted throughout with great severity, gradually became less frequent and milder, and finally ceased on the thirty-ninth day of life. The child lost 11 oz. in the first week of illness, and gained 1 oz., 7 oz., and 6 oz. in the succeeding three weeks. Food was taken well, except during actual spasm. The subsequent progress of the child was excellent, and no sign of mental defect was present three years later.

Umbilical Sepsis.

The cord and navel are the most important portals of infection. Sepsis via the cord begins on the second to the fifth day of life; via the navel, at any time until healing has taken place. The process may start in the cord and extend through the navel, setting up arteritis or phlebitis. Arteritis, usually a periarteritis, is the more common. It induces pyaemia without jaundice, and ends fatally from peritonitis, pneumonia, or asthenia. Pus can sometimes be

squeezed out from the end of the cord, and thickened arteries and abscess may be found under the abdominal wall if the disease spreads along the vessels and as far as the bladder. Phlebitis rarely causes local signs, unless associated with arteritis. It affects the umbilical vein, and gives rise to thrombosis, pus formation, and secondary hepatitis with progressive jaundice. Peritonitis and pneumonia are not infrequent, and are almost invariably fatal.

Clinically there are various types of septic infection. There may be no symptoms except sudden collapse, rapid fall of temperature, and death—a type most common in premature infants. Often it simulates acute gastro-enteritis, with vomiting, diarrhoea, and high fever. In other cases, cerebral and meningeal symptoms, or pneumonic conditions, predominate. Or there is severe toxaemia, with fever, greyish pallor, and haemorrhages. Haemorrhage after the second day of life is almost always septic. Many cases of haematemesis, melaena, and adrenal apoplexy are of this type. Tetanus, haemorrhagic disease, and the affections named after Winckel and Buhl are also septic in origin.

The chief affections of the navel giving rise to fever are omphalitis; gangrenous lymphangitis, probably a variety of erysipelas; umbilical ulcer, subnavel abscess, and gangrene; and erysipelas, usually localized at first and insidious in onset, but generally fatal. In these affections the fever begins at the end of the first or beginning of the second week of life, sometimes later. A few illustrative cases may be quoted:

An infant, 10 lb. at birth, had a temperature of 102° F. on the seventh day of life and was passing good stools. Two days later there was twitching of the left arm and leg. The sutures were overlapping, the scrotum red and thickened, and there was a gangrenous odour of the cord and slight swelling of the navel. The fever and twitching lasted for six days. A drop of pus came from the navel on the thirteenth day and the cord separated next day.

In a second child the cord separated on the eighth day and there was a drop of pus. Two days later there was diarrhoea and temperature 100° F. Next day twitching began and the temperature rose to 103° F. The twitching became more severe during the night; the stools were slimy and offensive; temperature, 101° F. The buttocks were excoriated, the navel sore and exuding pus, and there was a petechial rash on the abdomen. Death ensued a few days later.

Another babe was seen on the ninth day for fever of two days' duration, anorexia, occasional colic, and one attack of lividity. A diagnosis of umbilical infection was made. Death from asthenia took place a week later, without any further symptoms.

Finally, I must refer to a case of doubtful causation.

The child, a forceps case, did not breathe well for about twenty minutes after birth, weight 9 lb. 13 oz. On the fourth day twitching began. Temperature, 101° F. Ol. ricini and grey powder were given. On the evening of the next day the temperature rose to 106.4° F., and there was much twitching, especially of the eyes, face, and hands. Probably some of the fever was due to the too liberal use of hot bottles. The child was in a state of continuous spasm. The stools were dark green, and contained mucus. No water had been passed for fourteen hours. Possibly this was of gastro-intestinal origin, as mucus and bile were vomited for two days after birth. The temperature fell gradually during the night to 102° F., rose once to 105° F. next day, and then fell gradually to 99° F. The babe was very feeble at times, but took food fairly well. During the next night she had attacks of respiratory spasm and collapse, and, though revived three times by artificial respiration, she died at 5 a.m. from respiratory spasm while being fed.

These cases are sufficient to indicate the importance of septic infection, via the cord or navel, as a cause of fever in the newborn. Such a cause must always be looked for and excluded before even thinking that an attack of fever, especially when associated with spasms and bad stools, may be due to erroneous feeding. Too much importance has been attached to dietetic factors. The incriminated organism is not necessarily a very virulent one. It is impossible to estimate its virulence, except by the height of the fever and the severity of the symptoms.

TREATMENT.

Treatment is primarily preventive. The greatest care must be taken during and after confinement to prevent infection. Dress the cord properly, using dry antiseptic gauze and an antiseptic powder, such as starch, containing 5 per cent. salicylic acid. It is even safer to disinfect it first with rectified spirit or alcohol. Once symptoms arise the treatment is symptomatic. Chloral is far the most potent and most valuable drug for the relief of spasms. It can be given in doses of gr. ii to gr. iv by mouth or rectum. It should be given every two to four hours, the repetition of the dose depending on the effect on the child, a further dose not being given during sleep. Bromides are of much less value. Hot saline rectal injections are useful in assisting elimination of toxins. In bad cases subcutaneous injection of saline is needed. Small doses of grey powder are beneficial if the stools are bad. It is rarely necessary to give astringents for severe diarrhoea; bismuth in frequent doses is more useful. Brandy, 2 to 5 m. every two to three hours, or even in larger doses, is required in toxaemia and collapse.

PROGNOSIS.

The prognosis depends on the type and severity of the case. Localized infections—for example, of the navel—are comparatively benign. As long as there are no grave signs, such as jaundice, profuse diarrhoea, recurrent haemorrhages, peritonitis, pneumonia, or profound asthenia, there is a prospect of recovery. Anorexia, or refusal of food, and lethargy are bad symptoms. Even prolonged fever, with almost continuous spasm, may terminate favourably, though the possibility of subsequent mental defect must be remembered, as it is not always certain there is no encephalitis. Local or general palsy, due to encephalitis in the motor region, is unlikely to end in complete recovery.

FUNCTIONAL DERANGEMENT OF THE LIVER.

BY

WILLIAM BAIN, M.D., F.R.C.P.,

HARROGATE.

FUNCTIONAL disturbance of the liver has received scant attention from medical writers. While functional disorder of the nervous system and of the heart are treated at some length, hepatic insufficiency is not even mentioned in the principal textbooks of medicine. This is rather surprising when we consider the complex and varied functions performed by this important organ, for, in addition to the formation of bile, the liver is actively engaged in processes related to the metabolism of proteins, carbohydrates, and fats. The functions of the liver may be briefly enumerated:

1. It regulates the supply of glucose to the body by manufacturing it from proteins when the supply of carbohydrates is insufficient, and by storing it as glycogen when the carbohydrate element is in excess.
2. It not only prepares fats for combustion into their final products, but it synthetizes the more complex fatty compounds.
3. In relation to protein metabolism its chief functions are to convert amino acids into urea, and it plays an important part in the formation of uric acid, creatinin, and other waste products. These processes are chiefly carried out by intracellular ferments produced by the liver cells.
4. It is also the chief antitoxic organ. Further, the liver is concerned in the destruction of haemoglobin, and is a source of animal heat.

From this brief summary of its more important activities it is obvious that any interference with the work of the organ must produce some symptoms.

What are the manifestations of so-called hepatic inadequacy? A large proportion of the symptoms ascribed to insufficiency of the organ, such as flatulent distension of the abdomen, constipation, etc., are due to digestive disorders, and are themselves the cause of the liver disturbance. It may be dogmatically stated that functional derangement of the liver is generally secondary to disturbance in some other part of the organism. Further, it must be acknowledged that in certain individuals the functional activity of the liver becomes very readily depressed; in other words, there is a liability or a predisposition to functional derangement of the organ.

During the past season I measured the vertical dullness of the liver in 300 consecutive patients. The measurement was taken in the nipple line. The normal measurement is about 4 in. Exclusive of cardiac and gall-stone cases, in 36 the normal average was exceeded—in the large majority by one or two inches. Normal liver dullness may measure 6 in., but the percussion area is then very little affected by stimulation and counter-irritation of the organ. In most of the cases, after a series of liver packs, the vertical dullness was only 3½ in.

I will now mention some of the symptoms I observed in those cases in which the liver was enlarged: A coated tongue, a bitter taste in the mouth, nausea, perverted appetite, flatulence, constipation with pale clay-coloured stools; sallowness of the complexion and irritability of the skin; dull headaches, mental depression, lassitude, insomnia, irritability of temper, drowsiness after meals, and a disinclination for work; a sense of weight, or a feeling of discomfort in the right hypochondrium, and occasionally an aching in the tip of the right shoulder. The pulse was often slow.

It is my impression that when the liver is involved the tongue takes a longer time to become clean than in ordinary cases of dyspepsia. In support of this opinion I may relate a rather peculiar case:

The patient had taken alcohol to excess for some years. His tongue was covered with a thickish yellow fur. He told me it had been in the same condition for many years. He remembered a doctor drawing his attention to it twenty years ago. The liver was increased in size (6 in. of vertical dullness), and the organ was tender on pressure. He took strong sulphur water daily, and had liver packs every alternate day. At the end of six weeks he felt quite well, the liver dullness being 4½ in., but there was no improvement in the condition of the tongue. As he was then leaving Harrogate I advised him to continue the liver packs during the winter, and I substituted iridin and colalin for the sulphur water. When I saw him in the following year his tongue had improved, and before he left it was perfectly clean.

Not uncommonly one meets with this type of case. The patient does not complain of anything very tangible. He has had a good deal of worry, but has led a healthy life. To use his own expression, he is somewhat "out of sorts." He feels a little depressed, is less energetic, and is inclined to take a pessimistic view of things in general. He does not suffer from indigestion or constipation. The liver may be found to be slightly enlarged, and in some instances slightly tender on pressure, but there is no other tangible sign. After a week of sulphur water and half a dozen liver packs the patient feels quite well, and the liver is normal in size. Two of my cases had liver packs only, without internal medication, and the result seemed to be equally good. I take it that these cases are examples of primary hepatic inadequacy.

The functions of the liver may be disturbed without any detectable enlargement of the organ.

I will cite a case in illustration. A lady was sent to Harrogate for recurring attacks of eczema of the face. The liver dullness measured 4 in. in the vertical diameter. She was a gouty subject. The treatment consisted of strong sulphur water and alkaline sulphur baths. At the end of a fortnight the eruption had disappeared. A few days later she was threatened with another attack, which she attributed to cold, but this quickly subsided under the influence of calamine lotion. Shortly after her return home she had a severe attack followed by others. Her medical adviser sent her again to me on May 30th, 1911. On this occasion I adopted a different line of treatment, namely, vigorous stimulation of the liver. She had liver packs daily, took colalin and podophyllin at bedtime, and strong sulphur water in the morning. In a week the eruption had vanished and has not reappeared.

It is an inference from this and other cases that in refractory irritative skin lesions functional disturbance of the liver ought to be taken into account.

The liver adapts itself to the extra functional demand made upon it with great celerity, and sometimes under stress displays sudden variation in size. I will briefly mention a case where the liver dullness became reduced 4 in. in ten days.

The patient suffered from sciatica. The liver dullness on July 8th, when I first saw him, was 5 in., and the organ was slightly tender on pressure. On July 17th he got ptomaine poisoning. I saw him on the 18th; the liver dullness was then 7½ in.; on July 22nd it was 4½ in., and on July 28th 3½ in.

It has been suggested, and there is some evidence in support of the suggestion, that an increase of oxalic acid in the urine is an indication of hepatic insufficiency. Possibly alimentary glycosuria may also be an indication, but it is generally considered that this condition is associated with derangement of the pancreas.

The chief causes of functional derangement of the liver may be briefly summarized as follows: Dyspepsia, gastro-intestinal disturbance, alcoholic excess, rich and highly-seasoned food, fevers, nervous influences, and residence in the tropics.

Treatment.

The best method of treatment is to diminish the amount of work the liver has to perform and to facilitate the circulation through it. The work of the liver depends chiefly upon the quantity and composition of the food; therefore, in order to restore normal hepatic function there must be a limitation of the food supply; but it must be borne in mind that too rigid a dietary may interfere with the nutrition of the liver cell, and thereby injuriously affect its activity. The restriction in the quantity of food should therefore be compatible with the maintenance of normal nutrition. A mixed diet is the best, the articles being of simple composition. Three meals a day are advised unless the gall bladder is involved. Carbohydrates and fats should be limited, as the former tend to ferment, and the latter are not easily absorbed if the quantity of bile excreted is diminished. Alcohol should be forbidden. Other irritants such as mustard, pepper, red pepper, horse-radish, ginger, cloves, strong meat broths, large quantities of salt, and the empyreumatic substances that are formed in baking and roasting should be avoided. In most cases it will not be necessary for the patient to exercise dietetic self-denial for more than a week. Rest after meals should be enjoined so that the functional hyperaemia of the organ is not disturbed. Exercise such as golf is very important. With increased respiratory effort the liver is rhythmically compressed, and the venous blood flows more rapidly to the heart. For those unsatisfactory individuals who take little or no exercise massage, general and special, is desirable.

Regarding drugs, I would suggest a pill containing colalin and iridin, or podophyllin and colalin, at bedtime, followed by a dose of sulphate of soda or Carlsbad salts in the morning for a week or longer. If the stools are clay coloured, calomel may be substituted for either of the pills.

CONGENITAL ABSENCE OF THE COLON.

BY

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In reporting the following case I have in view not so much the interest due to the tuberculous lesions in the abdomen, with symptoms simulating recurrent appendicitis, as the rare abnormality of an entire absence of the colon, which was revealed, so to speak, accidentally in the course of operation. While congenital absence of the colon can be very easily explained on developmental grounds, I have not been able to find any clinical record of such a case. Neither can I recollect having come across an example of this condition in the dissecting-room during the years when I was a demonstrator of anatomy in the University of Glasgow.

The patient, a man aged 23 years, was admitted to the Western Infirmary, Glasgow, on September 7th, 1910, as a case of recurrent appendicitis, with a view to operation. During the previous two months he had had several attacks of pain in the right iliac region, lasting for a few days and then passing off. At the time of admission he was just recovering from one of these attacks. There was slight tenderness and rigidity in the iliac fossa, and a distinct mass could be felt, which certainly gave me the impression that we had to do with a lesion of the appendix with adhesions. The pulse and temperature were normal.

Five days later I operated with a view to removal of the appendix. On opening the abdomen by the usual gridiron incision I found a portion of the small intestine bound down by adhesions in the right iliac fossa, forming the mass which had been felt through the abdominal wall, but no trace of caecum or appendix. Having enlarged the incision in order to get free access to the abdominal cavity, further evidence of tuberculous disease was found. There was quite a variety of lesions exhibited. In addition to the adherent bowel above mentioned several distinct bands were present, under one of which a loop of intestine was caught and constricted almost to the point of strangulation. Having freed these bands, a number of enlarged glands were next observed in the mesentery, in the upper part of which one large glandular mass had softened and formed a tuberculous abscess as big as a hen's egg. This was incised and scraped out thoroughly, then closed by carefully suturing the edges of the peritoneum over it. Further examination of the bowel revealed several softened tuberculous patches on the surface of the gut, which were also scraped and covered in by Lembert sutures.

Finally I made a careful examination of the whole intestine and satisfied myself that the colon was entirely absent. The

small intestine could be traced into the rectum at the pelvic brim, with no apparent trace of caecum or appendix.

The abdominal wound was closed in layers, and united by primary union. The patient made an uneventful recovery and left the hospital at the end of sixteen days. Quite recently I had a note from him to say that he went to work a fortnight after leaving the ward and has remained perfectly well since.

A SIMPLE HAEMOGLOBINIZED SALINE CULTURE MEDIUM

*FOR THE GROWTH OF LEISHMANIA AND ALLIED PROTOZOA.**

BY R. ROW, M.D.LOND., D.SC.LOND.

(From F. D. Petit Laboratory, Byculla, Bombay.)

ROGERS, to whom belongs the credit of the discovery of *Leishmania donovani* of kala-azar going into fully formed flagellates in culture, made use of a saline solution containing a certain proportion of sodium citrate, to which he added the parasite-laden blood derived from the splenic puncture. Later the same author recommended the addition of a little citric acid, as this medium gave more abundant cultures. I believe a similar medium was used by workers who subsequently confirmed Rogers's discovery in India and in England. Nicolle of Tunis made use of Novy-McNeal medium in his early cultures of *Leishmania infantum* of Algeria. This medium consists of the water of condensation of ordinary peptone agar slopes, into which, while yet fluid at 55° C., is incorporated 25 to 33 per cent. of defibrinated rabbit's blood. This medium was utilized also by Leishman and his collaborators in their culture work. Nicolle simplified the classical Novy-McNeal medium by using only agar and NaCl without peptone or meat extract. It is this medium which is now generally used in Leishmania culture work, and it goes by the name of Nicolle-Novy-McNeal or N.N.N. medium. It is also in this medium that Nicolle grew and demonstrated for the first time the cultural forms of *L. tropica* of the Tunisian oriental sore. Row of Bombay utilized dilute human blood (in saline) for his first cultures of *L. tropica* of the oriental sore of Cambay. Later, Carter used a similar medium for his cultures of *L. tropica* of the oriental sores of Northern India. Carter's formula consists of 4 parts of heated serum, 4 parts of red blood cells of the rabbit, and 3 parts of 10 per cent. sodium citrate in saline.

While working out the comparative merits of all these media, two things forced themselves on attention.

1. That haemoglobin seems to be essential for the growth and development of Leishmania.
2. That any changes in the character of the growth of these bodies seem to depend entirely on the way in which haemoglobin is present in the culture fluid, namely, according as it is free in solution or only in the red blood corpuscles unhaemolyzed.

Culture fluids containing red blood corpuscles unhaemolyzed offer a distinct resistance to a vigorous growth of flagellates, while those containing free haemoglobin in solution offer no such resistance. This is one of the reasons why it is difficult to obtain a series of successive cultures by using culture fluids containing unhaemolyzed red blood corpuscles, while vigorous cultures and subcultures are obtained indefinitely by the use of N.N.N. medium which contains free haemoglobin in abundance. The better results obtained in his later experiments by Rogers in the acidified citrate medium are perhaps to be accounted for by the haemoglobin set free by the citric acid. The presence of free haemoglobin in the alimentary canal of blood-sucking insects like the mosquito, the flea, or the bug (which retain the ingested blood for several days), explains the cultural forms of the parasites found in these, after they have been made to suck blood rich in the parasites.

Further, it may be of interest to note that while free haemoglobin in the saline medium of a certain density is eminently favourable for a rapid and vigorous growth of flagellates, the presence of unhaemolyzed red blood corpuscles seems to favour the multiplication of the original parasites as such. This is what takes place in Nature—for example, at the seat of disease, namely, the spleen or liver in kala-azar, or the lesion in oriental sore—as well as *in vitro*. It is easy to demonstrate this by planting a clot, say, from the needle of a kala-azar splenic puncture in a saline solution, when an examination of the clot, even at the end of four days, will reveal an enormous number of ⊙ bodies which have apparently multiplied in the meshes of the clot. A similar result is observed in an N.N.N. culture, as this becomes concentrated by age. Thus a culture containing vigorous flagellates about the fifth day shows about the twelfth to fifteenth day a large number and masses of ⊙ bodies resulting from the post-flagellate growth of the parasite. This was referred to in another communication, and will form the subject of a separate memoir.

From the foregoing it is clear that the condensation fluid of Nicolle-Novy-McNeal medium fulfils all the conditions for a vigorous growth and multiplication of flagellates. But in practice in tropical laboratories the following difficulties present themselves:

1. The quality of blood available from a rabbit, even by a direct cardiac tapping, is so small that one cannot expect to obtain more than a dozen tubes for one rabbit sacrificed.
2. The quantity of condensation fluid obtained is not more than 1 to 1.5 c.cm.
3. This fluid gets concentrated in the course of a few days, owing to the tropical heat, but chiefly owing to the large surface of the agar slopes exposed to evaporation, so that the culture tubes are available from three to four days after they are prepared and before they are ten to twelve days old.

This gives an interval of only six days or so for subculturing. Further, it entails an enormous sacrifice of rabbits on the one hand, and on the other hand a great deal of labour in preparing the culture medium freshly every week.

It is to meet these difficulties that an attempt was made to simplify the process of making a suitable culture fluid, which would be like the condensation fluid of the N.N.N. medium in composition and be at the same time available readily and in larger quantity.

Details of Technique.

1. With the usual antiseptic and aseptic precautions about 5 c.cm. of blood are collected from the punctured marginal vein of a rabbit (blood can be aspirated easily to the extent of 5 to 8 c.cm. from one of the superficial veins of the forearm in man—thanks to Major Glen Liston's advice—when human blood is required) and poured into a sterile test tube containing a few glass beads. The tube is shaken to defibrinate the blood.
2. The defibrinated blood is now rendered laky by the addition of sterile distilled water in quantity requisite to dissolve all the haemoglobin available (1 in 8 to 10 of distilled water is found sufficient for the rabbit's blood in Bombay). The haemolysis may be also induced by repeated freezing and thawing, and is perhaps preferable when a stronger solution of haemoglobin is required.
3. The next step is to utilize the laky blood to dilute the NaCl solution so as to ultimately have a strength of 0.8 to 0.9 per cent. NaCl with a fair colour of the haemoglobin (after a great many experiments this strength has been found to be the best), and for this final admixture I follow the following routine:

From a stock solution of 1.2 per cent. NaCl two portions are sucked up with a sterile pipette and nipple and transferred to empty sterile test tubes of about ⅜ in. diameter.

These tubes are kept in a water bath at 56° C., and when they are at this temperature one portion of the laky blood is added to each saline tube. This gives a strength of about 0.85 to 0.9 per cent. NaCl. The heating of the saline previously is done with the double object of ensuring sterility and of destroying any complement that may be present in the defibrinated blood.

By this method, with about 5 c.cm. of blood, as many or more culture tubes are made as can be prepared with the sacrifice of a rabbit, and the quantity of the culture fluid is at least 5 c.cm. in each tube, instead of being only 1 c.cm. to 1.5 c.cm. of the N.N.N. medium. The tubes thus prepared are ready for immediate use (after cooling), and from start to finish take twenty to thirty minutes to prepare.

In this culture fluid flagellates flourish and multiply even after five to six weeks, so that subcultures can be made at leisure any time during this period, as the fluid does not get so easily concentrated, as does the condensation water of the N.N.N. medium, which by this time completely dries up owing to the large surface exposed to evaporation by the agar slope.

The following advantages may in brief be claimed for the haemoglobinized saline medium:

1. The culture medium can be made at once when

* Communicated to the Bombay Branch of the British Medical Association.

urgently required, without any loss of time, as the technique is simple.

2. The technique involves less labour, and entails no sacrifice of rabbits—that is, it is economical.

3. Human blood can be used for the preparation of this medium when required for special purposes or for general use.

4. The fluid does not alter appreciably by age within the limit of four to six weeks, owing to the small surface exposed to evaporation.

5. A larger quantity of the culture fluid in each culture tube is available, so that when abundant cultures are required—for example, for the preparation of vaccine—this gives a decided advantage.

6. The culture fluid keeps sterile during the working period of six weeks more easily than does the N.N.N. medium in the tropical laboratories.

NOTES ON FOUR CAESAREAN SECTIONS.

BY

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THE following four cases requiring Caesarean section fell to my lot within the short period of nine months; in each case, except No. 1, one or more craniotomies had been previously performed, the narrowed pelvis being caused by rickets.

Sterilization was done in each case by the following method: The tubes were clamped with small forceps close to the uterine cornua, the mesosalpinx transfixed by double ligature, one ligature tying off the proximal end of the tube close to the uterus, the other ligature being brought round the fimbriated end, thus removing the whole tube; the serous coat of the uterine end of the tube was stitched over. In two of the cases I was able to deliver the uterus, which I think is an advantage, although it needs a slightly longer incision; but there is less bleeding, as the uterine arteries can be easily controlled by an assistant and cloths are placed behind the uterus, completely shutting off the intestines. The placenta in all four cases was attached to the anterior uterine wall; this occurs in 75 per cent. of cases, but there is no difficulty in recognizing the placental tissue on incising the uterine wall. With regard to sutures for the uterus, I think No. 3 catgut for the main and No. 2 for the intermediate, both specially prepared to resist absorption for twenty-one days, is preferable to silk or Pagenstecher's material. Ligatures should not be tied too tightly, as the tissues of the gravid uterus are soft and easily cut through; a double hitch for the first half of the knot, and completed, followed by a single knot, is, I think, preferable to three single knots.

As to the time of operating, the best, in my opinion, is before the commencement of labour pains, the operation can then be conducted in daylight, adequate assistance secured, and the usual preparation for an abdominal operation can be carried out; the fear of haemorrhage and uterine inertia need not be considered seriously.

Sterilization was done in each case by the patient's desire, and I think the method described above is likely to prove satisfactory. It is stated that excision of a "portion" of the tube has been followed by pregnancy, even when the ovaries have been removed; this I can well understand, if a small portion of ovary has been left behind. This matter is fully referred to and discussed by A. J. Wallace and Sir W. Sinclair, in the *Journal of Obstetrics and Gynaecology of the British Empire*, 1907.

CASE I.—S. L., aged 31, primipara, had arrived at full term. She was first seen by Dr. Anderson, of Bodmin, May 6th, 1911, who says, "There was no dilatation of the os, or other signs of labour. Next morning the pains were few and infrequent, and the os just admitted the tip of the index finger, but was too high up to make out the presentation; she was a short, rickety woman with a contracted pelvis; the antero-posterior diameter was 2½ inches."

She was brought into the East Cornwall Hospital, Bodmin, and I was asked to see her with a view to Caesarean section. On May 8th I was able to confirm Dr. Anderson's notes, and performed an immediate Caesarean section. The child was dead, but the mother did well, the wound closing by primary union. On the fourteenth day she developed slight thrombosis of the left femoral vein, which delayed her convalescence. She left hospital in six weeks quite well.

Case.	Age.	Date.	Doctor.	Previous Labours.	Convalescence.
1. S. L.	31	May 8, 1911	Dr. Anderson	Primipara	Good; child stillborn; in hospital six weeks.
2. L. W.	33	Sept. 28, 1911	Dr. Wagner	1 Craniotomy	Good; child strong; in hospital 24 days.
3. M. S.	30	Dec. 21, 1911	Dr. Hodge	3 Craniotomies	Uninterrupted recovery; in hospital 33 days.
4. L. G.	28	Feb. 3, 1912	Dr. Anderson	1 Craniotomy	Uninterrupted recovery; in hospital 30 days.

The Arris and Gale Lectures

ON

THE MECHANISM AND TREATMENT OF SHOCK.

DELIVERED AT THE ROYAL COLLEGE OF SURGEONS, MARCH 22ND, 1912.

BY

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(Concluded from page 1072.)

LECTURE II.—PART II.

THE PELVIC ORGANS AND GENITO-URINARY SYSTEM.

Pelvic Viscera.

PELVIC and perineal structures do not share in the local vascular mechanism referred to in connexion with the abdomen proper. We have shown that all variations from these regions are eliminated by blocking afferent impulses. Blood-pressure variations, therefore, from interference with these structures are a true indication of the shock value. In the human subject sigmoidoscopy, with the accompanying inflation of the bowel, causes a definite rise in blood pressure of the pressor type. A study of the blood pressure, pulse, and respiratory-rate shows: (1) That the vasomotor variations are not due mechanically to increased pressure in the abdominal cavity. For the pulse and respiratory-rate are increased instead of being slowed, as

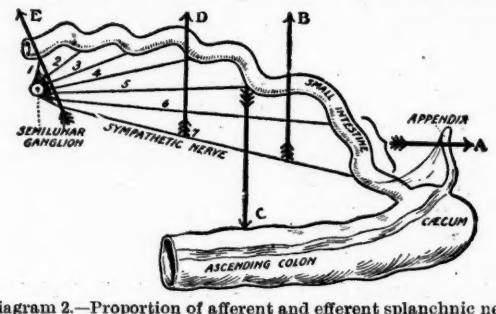


Diagram 2.—Proportion of afferent and efferent splanchnic nerve fibres mechanically stimulated by traction on mesentery in different situations.

would then be the case. (2) That direct stimulus to the bowel wall is not responsible. For our experiments have repeatedly demonstrated that manipulation of the bowel wall is without any ascertainable effects on the blood pressure. (3) That distension of the intestine induces tension upon the mesentery, and from the stimulus to this

structure, with its contained nerves, arises the impulse to the vasomotor centre; to this the rise in blood pressure is responsible. The stretching and stimulation of the mesenteric nerves during intestinal distension has, we believe, an important bearing on intestinal activity, blood supply, and shock (from afferent impulses) in clinical medicine and surgery. The time at our disposal, however, does not permit detailed reference to this subject. (See Diagram 2.)

The Bladder and Urethra.

We have taken tracings during cystoscopy (and distension of the bladder) under chloroform and under spinal anaesthesia. The passage of instruments through the urethra under chloroform induces impulses of a definite pressor type, accentuated in the case of vesical distension. This latter is not due to a mechanical increase of intra-abdominal pressure, for (1) the gradual fall after vesical distension argues a tolerance to the stimulus, and (2) distension under spinal anaesthesia does not produce a similar rise. Postponing deductions for a moment, we present Chart 48,

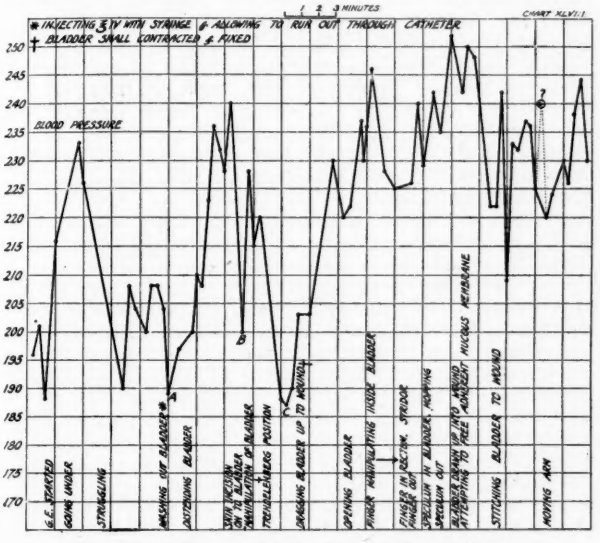


Chart 48.—C.E. anaesthesia. Suprapubic cystotomy.

representing suprapubic cystotomy in a man of 64 years with malignant disease of the bladder under C.E. anaesthesia. The contracted nature of the bladder rendered considerable amount of traction essential, in order to bring the fundus up to the abdominal wall. Vesical distension in its relation to the blood pressure is well shown from *A* to *B*. *B* to *C* represents the incision of the integuments and fascia; and at *C* the blood pressure fell approximately to the original level during the cessation of manipulations and while the patient was placed in the Trendelenburg position. The enormous pressor effect from stimuli to the trigone of the bladder at *C* is really remarkable; for the original level is never regained during the tracing, and surpasses in degree all the pressor variations hitherto studied, except perhaps in the case of circumcision (Lecture I). Further evidence in the confirmation of this tracing is to be found in a chart representing enucleation of the prostate in an old man of 72 with markedly thickened arteries, under chloroform anaesthesia. The enormous pressor rise of pressure is well marked; and the fall in the interval between manipulations is also to be observed. Attention should further be called to the fact that this pressor effect continues some time after the cessation of the stimulus; for the blood pressure had not sunk to the original level three minutes afterwards. In Lecture I cystectomy in the dog was demonstrated in an original tracing. Consecutive blood pressure readings of this tracing, plotted out in the same manner as in the case of the human tracings we have studied, reproduce these features in a striking manner. At the same time the greater susceptibility of the lower animals to the depressor effects of chloroform makes the interval fall of blood pressure more abrupt than in the human subject (Chart 50).

To sum up: The prepuce, urethra, and the bladder all show marked pressor types of curves, and have, therefore, a low shock value. The susceptibility of the bladder and urethra to infection is well recognized; and in these structures, therefore, and in the viscera of the abdomen proper (where the reverse condition obtains) the *law of*

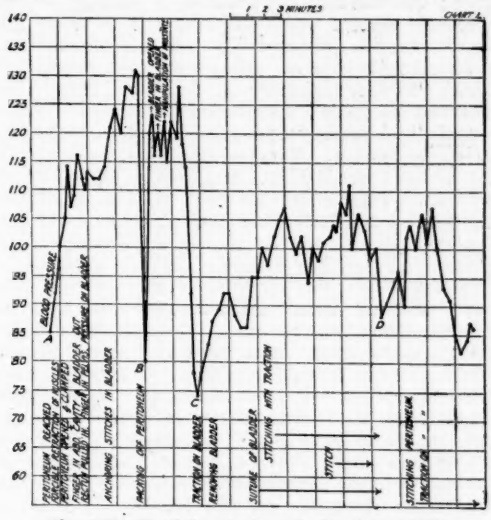


Chart 50.—Partial cystectomy in the dog. CHCl3.

inverse immunity is again supported. The enormous rise of pressure in prostatic operations may cause sudden death in two ways: (1) Failure of a hypertrophied heart which cannot resist such a sudden enormous increase of pressure; (2) possibly, in some cases, cerebral haemorrhage. The indications for nerve blocking in these operations will be referred to shortly.

The Kidney.

Interrupted readings in an operation for the removal of vesical calculus in a small boy show the following features: Traction on the renal pedicle is accompanied by a marked rise in blood pressure, and this rise gives way to a fall to about the same level. (Chloroform anaesthesia was employed.) There is hardly any increase in the pulse-rate commensurate with this rise of blood pressure. Further, release of traction is not accompanied by a fall, but a marked rise in the pulse-rate. The explanation is as follows: This rise in blood pressure (confirmed by animal experiment) during traction on the renal pedicle is due to a direct stimulus to the solar plexus—that is, direct splanchnic stimulus and vaso-constriction, such as has been observed in previous tracings in the abdomen (see Trace 16*a*, *hh'*). The failure of the pulse to rise proportionately to the blood pressure supports this view, as also does the sudden drop to the original level on the release of traction, with, at the same time, acceleration of the pulse-rate. Clearly, then, pressor manifestations in the case of the kidney are not evident, and we conclude that this organ has a high shock value, while, in accordance with the *law of inverse immunity*, and in view of the importance of this organ with regard to the functions of excretion, the high immunity of the kidney to bacterial infection cannot be denied. In the case of the kidney, blood-pressure readings are again of *no value whatever* in the estimation of shock from interference with this organ.

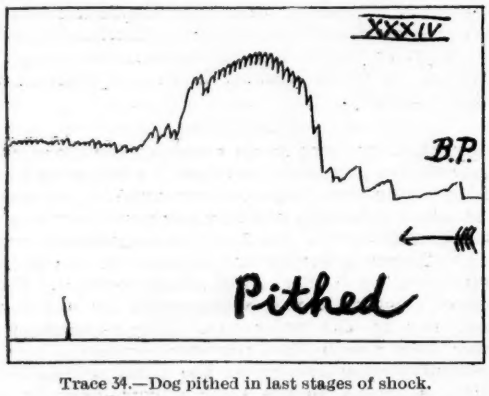
Finally, traction on one kidney, by the direct stimulus to the solar plexus, induces vaso-constriction in the opposite kidney. If this be continued long enough vaso-constrictors are fatigued, and a *reversal* is established—that is, vaso-dilatation. We believe this alternation of vaso-constriction and vaso-dilatation in operations on the kidney (when both organs are diseased), with consequent physiological disturbances, is of greater importance than the anaesthetic in the production of *post-operative urinary suppression.*

THE NATURE AND SITUATION OF AFFERENT FATIGUE IN SHOCK.

Experimental.

There is abundant evidence to show that in ordinary clinical shock there is no fatigue of the efferent vasomotor fibres. Splanchnic shock can be induced experimentally, but probably does not occur in surgical practice. The

nature of fatigue of the vessels in splanchnic shock seems to be partly associated with exhaustion of the suprarenals (Elliott). Priestley found absence of chromaffin in 84 per cent. of cases of low blood pressure, especially in advanced asthenia; but this fact has probably a bearing only on the tone of the vessels (collapse), and not to their reaction to nerve stimulus (shock). In systemic shock, however, depending as it does on afferent stimulus and efferent response, we have already produced evidence that the centres and the blood vessels are both active. Thus, in Lecture I the depressor stage of shock was shown to be due to active depression. Further, the injection of strychnine in this case converted depressor impulses again into pressor (Chart 28). This chart afforded clinical evidence that the centres are not exhausted in shock and that strychnine did not contribute towards such a conclusion. Again, if strychnine acts on the synapses, as has been stated by Cushny and others, we should infer that in this case the pressor synapses were fatigued, and that this fatigue established the domination of the depressor impulses, whose synapses were more or less intact. Strychnine therefore restored pressor impulses by reopening paths of conduction across these synapses. Now, electrical stimulation of the sciatic nerve in a fresh dog (under chloroform anaesthesia), and the steps of the operation to expose this nerve show a rise of blood pressure proportionate to the degree of stimulus. In an animal shocked from operation on the trunk and lower limbs vasomotor reaction becomes less and less, and finally disappears in proportion to the degree of shock; so that finally electrical stimulation of the cut central end of a



Trace 34.—Dog pithed in last stages of shock.

dog's sciatic induces no variations in blood pressure at all. Further, stimulation of any part of such a nerve at its origin (that is, a mixed spinal nerve within the dura) produces no effect on the blood pressure, even though a convulsion is excited. The block to centripetal impulses probably occurs, therefore, in the central nervous system and not in the peripheral nerves. Now, in a dog shocked to a degree such as we have described, if the spinal cord be divided in the lower dorsal or upper lumbar region, electrical stimulation of its central end produces hardly any effect on the blood pressure. This seems to show that, even if the block occurs in the segments corresponding to the stimulated area, this is not the main situation where afferent impulses are prevented from reaching the vasomotor centre. At the same time electrical stimulation of any of the component parts of the brachial plexus in such an animal induces a slight rise in the blood pressure. While, in profound splanchnic shock, electrical stimulation of a mixed segmental nerve within the dura induces a definite rise of blood pressure, as also does mechanical stimulation of a nerve of the brachial plexus, the variation being more marked in the latter. A study of such tracings as these seems to show that fatigue is most complete in those afferent paths supplying the area of operation; but that these impulses overflow their own synapses and fatigue, to a less extent, afferent paths from other regions. These facts again negative the view that the centres themselves are fatigued or paralysed. If, in an animal, shocked to such a degree that stimulation of the central end of the cut spinal cord does not induce any rise in blood pressure, electrical stimulus is applied to the floor of the fourth ventricle, a marked alteration in the blood pressure results, that is, the blood pressure is raised and the pulse is markedly quickened. Finally, if at the moment of death from shock of this degree, a stout needle is driven into the centre of the floor of the fourth ventricle, a still more marked rise in blood pressure, with acceleration of the pulse, is observable. (Trace 34.) Experimentally, then, it seems to us that failure of the centres does not take place until the moment of death, a fact which is further supported by the marked Traube-Hering curves observable in profound shock in many of our tracings.

We conclude that the failure of transmission of afferent impulses occurs at the afferent synapses.

The nature of the synaptic block is a matter for speculation; but, bearing in mind the probable nature of fatigue of the end-plates in voluntary muscle by sarcolactic acid, we thought it possible that hyperexcitation of the afferent nerves in shock might be responsible for the formation of a waste product inhibiting the normal conduction through the synapse. Professors Mott and Halliburton have described the formation of choline in nerve degeneration. We performed a few experiments with a view to ascertaining whether some analogous waste product may not be responsible for these phenomena. These investigations were very limited, owing to our insufficient knowledge of physiological chemistry. A tracing from a fresh dog into whom choline was injected showed the typical fall in blood pressure. Professors Mott and Halliburton described this action of the drug as being directly on the vessel wall. But if a small incision in the abdominal wall of a fresh dog is made, and choline injected into a vein, mechanical stimulation of the semilunar ganglion, in the middle of the resulting fall of blood pressure, definitely breaks this fall, and produces a spike in the normally even curve. Immediate stimulation of the central end of the cut sciatic nerve, after this phenomenon, fails to evoke any alteration in the blood pressure, though, immediately previous to this, a marked rise of blood pressure with electrical stimulation was obtained. Finally, it is known that if choline be repeatedly injected into an animal, this characteristic fall of blood pressure is absent, and a small rise is observed in its stead. If, after this phenomenon, amputation of the leg at the hip-joint be performed, characteristic blood-pressure variations are entirely absent (a condition resembling extreme shock). On these incomplete experiments we suggest that choline acts on the afferent vasomotor synapses (as probably all toxins do), blocking the transmission of afferent impulses through them—a view which would support the immunity so quickly established to this drug, with repeated injections at short intervals.

Dr. Rosenheim, of King's College, has kindly examined some clinical specimens for us. In a case of post-operative shock he could find no choline in the cerebro-spinal fluid. In the spinal cord and medulla from two infants who died from shock twelve and twenty-four hours respectively after their injuries, no choline could be found; while a similar negative result obtained in the case of a child who died from whooping-cough. Clearly such a waste product as we suggest is not identical with choline, though it may possibly be a toxic substance which acts in a similar manner on the synapses.

HISTOLOGICAL.

Histological investigations (prompted by the results obtained by Crile and Dolley) have been carried out by us to determine whether there is any recognizable change in the central nervous system in shock, and, in particular, in that part of the central nervous system in which the vital centres are situated—that is, in the medulla, between the level of the striae acousticae and the tip of the calamus scriptorius. We have examined serial sections of various segments of the spinal cord, medulla, cerebellum, and cerebral cortex of dogs which have been shocked to death. Our observations are based on the careful examination of many thousands of cells. The brains and cords were in each instance removed directly after the death of the animal, and preserved in 10 per cent. formalin, hardened in graded alcohols, passed through chloroform, and embedded in paraffin. Sections 6 μ in thickness were cut and stained by a modified Nissl's method, ½ per cent. aqueous thionin blue being used. Some sections were counter-stained by eosin, others by erythrosin, others not at all. Differentiation was carried out by means of aniline alcohol. The sections were cleaned in bergamot and

benzole, and mounted in acid-free xylol balsam, benzole balsam, or benzole dammar. In comparison with these specimens we were fortunate to obtain a human brain a few hours after death. The case was that of a healthy fireman, who was run over by a motor engine, and died from shock and haemorrhage. The injuries were very extensive, but the skull was not fractured. The examination was performed by one of us about fourteen hours after the time of the accident. The brain was preserved in the way described; and we examined serial sections from just below the tip of the calamus scriptorius to the level of the eighth nerve. In view of the difficulty of definite results being obtained from such methods of examination, we shall content ourselves by stating generally what, in our opinion, is the interpretation of these changes; reserving to ourselves the right to modify our opinions later if necessary. Too much must not be expected from cytological changes thus demonstrated; for Nissl himself states that we cannot be too sceptical in correlating cortical changes with mental diseases.

In the spinal cords of dogs shocked to death we could find no cytological changes whatever. We lay stress on the fact that these results refer also to segments of the cord which were responsible for the innervation of the operation area. The cerebral cortex showed very little change, and Purkinje cells of the cerebellum showed no striking alterations. Most of our attention was directed to the medulla, which was studied in serial sections. If the vasomotor centre is fatigued in shock, we should expect to find some existence of that centre in the deviation from the normal Nissl pattern of certain groups of cells, even though this centre has, in all probability, never been localized histologically. No such evidence has been found; a few scattered cells, in which chromatolysis was seen, on each side of the median raphe, might possibly represent it. This does not imply that a definite group of cells, forming a centre, does not exist (although this is probable); but rather that in shock there is no fatigue of such a centre to be detected histologically.

We have examined carefully the motor nuclei of the bulb, and found them normal. Only very scattered evidence of mild chromatolysis was detected. In a few cells there was marked chromatolysis of a degree described by Professor Mott as occurring in the cat when all four cerebral arteries have been tied. We lay stress on the fact that these motor nuclei are in a condition to respond and respond well, if they can be activated. Therefore, fatigue of the motor cells does not occur in shock. (In the human medulla the same conclusions are arrived at.)

In the sensory cells of the gracile and cuneate nuclei and in the olivary nucleus (much less so in the sensory nucleus of the vagus) there are more definite changes. Many cells show chromatolysis, but rarely in extreme degree. It seems that the scattered cells near the raphe, together with the sensory cells, are less resistant than the motor cells; and these features are more pronounced in the human medulla we examined.

We conclude that the motor nuclei are more resistant than the sensory nuclei under adverse circumstances.

These observations support our view, arrived at clinically and experimentally, that such cell changes as are noticeable are largely the secondary outcome of the altered vascular conditions existing in shock (for in the human medulla haemorrhage played an important part), and not due to direct fatigue, or indeed fatigue at all, by afferent impulses—that is, they are due to starvation.

Clearly the motor cells are in a position to respond to stimulation, but the activating influence fails. This influence may fail from (1) defective transmission of the synapse round the motor cells. (2) The intermediate sensory neuronic system being unable to pass along stimuli received, owing to failure of the cell. (3) A block at the cell of this system (a block round the synapses of the efferent fibres from the cerebral cortex, or functional failure of the pyramidal cortical cell, does not play any direct part in the mechanism of shock; these are only secondarily involved). The second possibility—namely, failure of the cell of the sensory intermediate neurone—has little support, for we lay great stress on the experiments of Professor Mott, Sir Victor Horsley, Ehrlich, and Professor Leonard Hill, as showing that cerebral activity may be maintained in chromatolysis from practically complete anaemia, with a strong stimulus. A similar activity in the cells we are discussing is to be inferred; and the chromatolysis being most marked here, combined with the remarkable absence of cell changes in the rest of the medulla (particularly the motor nuclei), leads us to conclude that the block occurs at the afferent synapse round the cell of the intermediate sensory neuronic system. Therefore, on experimental, clinical, histological, and possibly chemical grounds, we suggest that the failure occurs at these synapses, which are to be regarded as a protection to the medullary centres by their failure.

Conclusions.

Shock cannot accurately be defined, for the term does not express a state or condition of an animal, but rather a mechanism which establishes, first, a defence of the organism against the harmful effects of injury, and, next, the protection of the vital centres from a degree of exhaustion from which they could not recover. The primary conception of shock should be:

Shock is the reaction of the central nervous system to exaggerated or abnormal afferent impulses.

In other words, a study of shock means the study of pathological vasomotor reflexes regarded as a symptom of the activity of the central nervous system. In their order of importance the centres most concerned are (1) the vasomotor and cardiac centres, (2) the respiratory centre, (3) the centres of consciousness and special senses. Their susceptibility to trauma of any sort is in the inverse order. Clearly shock commences with the first abnormal or exaggerated afferent impulse, and continues until death. Clinically, therefore, surgical shock commences with the skin incision, and it is continued long after the operation, until the abnormal or exaggerated afferent impulses cease and physiological conditions are once again restored. It is necessary to realize that *collapse* is associated with a low blood pressure and its sequelae; but that it is not peculiar to shock, though it is a sequel of the second stage; and it may be induced by many other agencies—for example, haemorrhage, toxaemia, prolonged loss of heat, etc. Collapse is only an end result of, and not identical with, the reaction to abnormal or exaggerated afferent impulses constituting shock.

Finally, we have shown that a low blood pressure is not an essential accompaniment of the clinical picture of shock; for in Lecture I we showed that the classical symptoms of shock occurred when the blood pressure was at the highest recorded point. It is of interest to note the fact recorded by Takaki that in sudden perforations during enteric fever the pulse tension is high, for this phenomenon is accompanied by the classical features of shock. These classical features may be marked in the pressor stage of shock as well as in the depressor, though in the former the high pulse tension and the widely-dilated pupils contrast with the low pulse tension and the intermediate pupils in the stage of collapse.

Mental Shock.

The activity of the higher centres raises the blood pressure proportionately to its intensity, while the individual variations are proportionately increased. In pain the mean blood pressure is not markedly raised but the individual variations are well marked. One cannot help being struck by the approach from pressor to depressor type of chart with the increased violence of afferent impulses from the outside world to the centres of consciousness, as evidenced by their efferent impulses to the vasomotor centre. Fatigue of the pressor paths from the centres of consciousness to the vasomotor centre, establishes the domination of the depressor impulses. And this varies with (1) the duration of the stimulus; this is familiar to all in the effects of prolonged mental strain; and (2) intensity of the stimulus. Sudden, very violent stimuli may fatigue the pressor and initiate immediately the domination of depressor impulses—that is, the extent of the stimulus is carried to a more marked degree than in the charts we have studied. Such a sudden stimulus may cause sudden active depression, leading to collapse and even to death; and this is the mechanism of mental shock (also of shock from blows on the head, etc.). This collapse may be maintained, or rather its persistence may be favoured, by the exhaustion of the suprarenals, which Cannon has demonstrated to take place in the cat, when terrified.

So-called "traumatic shock" is an exaggerated type of mental shock. It is initiated by a slight trauma, which might have been, and by mental anticipation was pictured as, serious and painful. The persistence of the mental picture of the trauma, coupled with the possible suprarenal exhaustion, may initiate a progressive active depressor stage of shock, leading to death in the same way as in delayed surgical shock.

The mechanism of mental shock is identical with that of surgical shock, the stimulus being "manufactured" in size and nature by the hyperactivity of the centres of consciousness.

Toxins.

Toxins (amongst these we class general anaesthetics), by their effect on the synapses, render pressor fatigue more likely; and this is notoriously the case in the toxaemia of hyperthyroidism and exophthalmic goitre, lymphatism, etc. In exophthalmic goitre the prolonged toxaemia, and constantly magnified small stimuli, tend to place the sufferer, figuratively speaking, on the precipice of pressor fatigue. The additional toxaemia of chloroform, the stimulus of the operation, and the pre-existing mental excitation, all tend to initiate pressor fatigue and active depressor impulses. We believe, with Crile, that sudden deaths under operation in these cases are really manifestations of extreme mental shock.

Pain.

The depressor type of chart obtained in pain renders the control of this, before and after operation, of paramount importance, since it appears to be an active agent in initiating active depressor impulses.

(Inhalation anaesthesia, lumbar puncture and spinal anaesthesia, abnormal reflexes in surgical operations, relations of vasomotor changes to the onset of "surgical shock," shock-values and shock-index, and shock-values as applied to the central nervous system, etc., have all been sufficiently considered in Lecture I, and need not detain us further in the present lecture.)

The Abdomen and Genito-Urinary System.

We would emphasize again the importance of the fact that elimination of centripetal impulses by transection or excision of the cord showed that a very definite improvement in the blood pressure, action of the heart, and general condition of the animal, resulted from intestinal manipulations. This is due to direct splanchnic stimulation unhampered by central depressor stimuli. This beneficial effect of blocking afferent impulses, combined with the local splanchnic stimulus of the operation, on the condition of the patient is similarly observed in spinal anaesthesia, and forms one of the strongest recommendations for its employment in suitable cases. It is within the experience of most surgeons that severe intra-abdominal manipulations are "deceptively" well borne by the patient during their continuance, and that such patients often rapidly get worse during the suture of the abdominal wall. This feature is due to the relaxation of the visceral vessels when the local stimulus is stopped. Consequently a sense of false security is likely to be rapidly disillusioned when the splanchnic stimulus ceases. Clinically, however, the raised blood pressure, combined with the slow pulse, gives an indication that the phenomenon is of peripheral origin. The exhaustion of the suprarenals is probably an accessory factor in maintaining the progressive collapse from the depressor stage of shock.

TREATMENT.

The treatment of shock naturally falls into two groups —*preventive* and *curative*. Only the briefest indication of the principles is possible.

PREVENTIVE.

This consists in the maintenance of pressor impulses and the avoidance of the domination of depressor ones. Factors directly concerned are:

A. Nature and degree of violence.
B. Duration of the stimulus.
C. Area involved—that is, number of fibres stimulated.
D. Shock value of the tissues.

Taken together, these (A, B, C, D) constitute the shock value of the operation—that is to say, the onset of shock is influenced by technique and the nature of the operation. With regard to technique, it only requires to be said that the surgeon's aim is maximum speed combined with, but never at the expense of, gentleness of manipulation and perfect haemostasis. One point in particular which we would refer to is the question of traction on the intestinal mesentery. This is to be avoided whenever possible, but, if necessary, traction should always be exerted upwards —that is, towards the semilunar ganglia (see Diagram 2).

E. Shock value of the individual—that is, resistance of the central nervous system to pressor fatigue. The following factors require consideration:

1. *Age.*—Perhaps the most important consideration—resistance to pressor fatigue—is directly proportionate to the age. Thus, an operation which involves equal stimulus, and is performed under identical circumstances, may induce the depressor stage of shock in a child; whereas, in an adult, the same operation, lasting an equal time, would only evoke the normal pressor response.

2. *Physique.*—This probably depends on the presence or absence of circulatory toxins; we do not refer to muscular development.

3. *Toxaemias.*—These form the most important consideration after that of age:

(a) Autointoxications.

We do not use this term in the general clinical sense, but reserve it for true autointoxications arising from the absorption of excessive or perverted secretions of the ductless glands. Paramount in surgery are hyperthyroidism and exophthalmic goitre, and lymphatism.

Hyperthyroidism.—(1) The toxin, perpetually acting on the pressor synapses, places the patient on the "precipice of pressor fatigue." This is enhanced by depressor stimuli which may be initiated from the outset of operations. (2) The afferent impulses of the operation accentuate this tendency. (3) The manipulations of the thyroid add a powerful dose of toxin to a susceptible subject. (4) The constant small, but magnified, mental stimuli in such patients gradually induce a condition of pressor fatigue, accentuated by previous anxiety and the sudden emotion preceding the operation. (5) General anaesthesia, particularly chloroform, assists in accelerating pressor fatigue. (6) The heart muscle is degenerated, and the rhythm is accelerated by the excessive sympathetic stimuli excited by the least afferent impulse—there is, therefore, liability also to heart failure. On these grounds the following routine is suggested: Absolute rest in bed for at least a fortnight before operation (Kocher); during this period every afferent stimulus to the higher centres is to be eliminated as far as possible. The toxin is to be eliminated by copious administrations of fluids before and after operation. Carbohydrates, diophoretics, diuretics, and laxatives are to be given appropriately.

The emotion of the operation is to be mitigated by Crile's method of "stealing the thyroid." Morphine is to be given without stint; atropin is to be avoided until after anaesthesia is induced, owing to its stimulation of the higher centres.

During the operation afferent impulses are to be blocked by infiltration anaesthesia, which is to be combined with general anaesthesia; of these ether, to unconsciousness only, is preferable; chloroform is strongly contraindicated. The manipulations of the thyroid are to be reduced to a minimum, and removal of the excess of toxin by temporary drainage is advocated. The condition of the heart is to be treated during the preliminary rest.

Lymphatism.—A totally opposite picture is presented in this condition. (The enlargement of the thymus in both conditions forms the only point in common in these two diseases.) We have shown that in animals and man operations in regions where the vagus stimulus predominates are accompanied by marked cardiac and respiratory inhibition. The fullest doses of atropin, almost to poisoning, at least half an hour beforehand (and continued afterwards) are strongly to be recommended. Direct cardiac inhibition is particularly well seen in operations on the fauces and pharynx, etc.—for example, operations for tonsils and adenoids, retro-pharyngeal abscess, etc. (We believe the credit for advocating atropine in such cases is due to Scharlieb.)

(b) Infective.

Acute.—Toxaemias of bacterial origin can of themselves initiate pressor paralysis. The rapidity varies with the

virulence and with the age, younger patients being the most susceptible. Operations on the infected area are to be considered in the following light:

The danger of pressor fatigue is influenced by the following: (1) The factors already referred to—A, B, C, D, comprising the shock value of the operation. (2) The existing toxaemia is inducing a synaptic block. (3) The steps of the operation accelerate pressor fatigue; and are aided by the after stimulus, pain, etc. (4) Fresh raw surface, for the absorption of additional toxin, is exposed to infection by operation. (5) General anaesthesia adds *another toxin* to the already poisoned synapses. (The same considerations apply to chronic infections in a lesser degree.) These observations apply, further, to acute and chronic infections where toxaemia is of independent origin from the lesion calling for interference—for example, pneumonia with strangulated hernia.

(c) General Anaesthesia.

General anaesthesia has been shown to precipitate pressor fatigue, chloroform more than ether. We present Chart 52 showing the depressor stage of shock initiated in

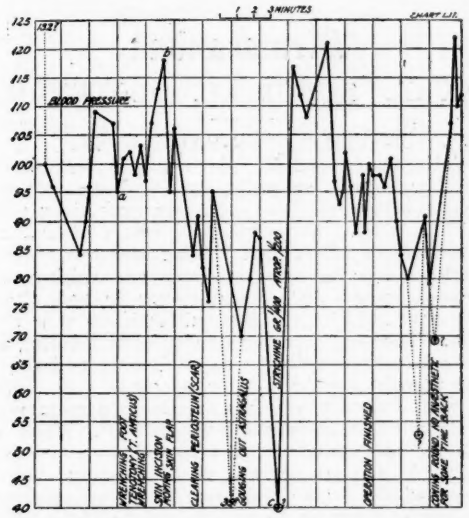


Chart 52.—Depressor stage of shock, initiated by excessive CHCl3 narcosis. Pressor stage restored by strychnine.

a simple operation from an overdose of chloroform in a child. The conversion of the depressor stimulus into the original pressor stimulation by strychnine is also well shown in this chart.

4. *Haemorrhage, loss of heat,* and *mental shock* all precipitate pressor fatigue.

The control of these factors which have been shown to favour the onset of the depressor stage of shock is to be considered in the following way:

1. *Indications for Nerve Blocking.*

Local, and intravenous local, anaesthesias are of limited application; with the exception of operations in more or less superficial regions they do not institute a complete nerve block (direct cocainization of large nerve-trunks is included).

Spinal anaesthesia is the most efficient method of inducing a complete afferent block over a large area; and experience has proved that it can be safely, scientifically, and accurately administered to those cases where its employment is called for. The principles on which indications for its employment are based have been referred to. Two broad groups of cases, therefore, will be briefly considered (it being granted that *age always predominates* as an indication—that is, the younger the child the more urgent is the need for the protection of the synapses by spinal anaesthesia likely to be).

1. *The Shock Value.*—Consideration of the shock value, arising from factors A, B, C, D, in conjunction with the age, form the principles on which a surgeon will act according to his experience.

2. *Toxaemia.*—When toxaemia is paramount, the shock value of the operation, together with the age, will decide the advisability for nerve blocking. In our limited time detail is impossible, and the line of reasoning to be recommended is best illustrated by two examples:

A child, aged 5 years, suffering from acute osteomyelitis of the femur; toxaemia profound. The dangers are: The existing toxaemia is paralysing the pressor synapses; the age of the child is young; the shock value of the femur is great; the shock value of the operation is very high; general anaesthesia adds another toxin; the opening up of fresh tissues increases the surface for the absorption of the toxin, accordingly toxaemia is increased afterwards. If the pressor synapses are fatigued by the operation (a likely contingency) the increased toxaemia and pain afterwards will induce progressive depression leading to death perhaps a day or two later. A block to afferent impulses by spinal anaesthesia is indicated in such a case.

In a child aged 5 years, suffering from gangrenous appendicitis, with diffuse, spreading peritonitis, toxaemia was profound. Here similar conditions obtain; but another important factor is also to be considered. In order to minimize the violence of manipulations ample exposure is advisable; this, however, would expose the synapses to further poisoning, due to increased septic absorption from the additional raw surface created. On the other hand, if, for this reason, a small exposure is made, the synapses are exposed to increased afferent impulses (from more prolonged and violent manipulation, wide retraction, etc.). In these cases, therefore, the surgeon is situated between the Scylla of pressor fatigue and the Charybdis of increased toxic absorption, both equally dangerous in a child. If spinal anaesthesia be employed, the complete block to afferent impulses permits almost any degree of retraction and manipulation through a quite small exposure, without accelerating pressor fatigue (indeed, we have shown that the patient's condition improves during these manipulations); the duration of the stimulus is lessened, and the increased "after-toxaemia" is minimized. The synapses are then in a better position to withstand such increased subsequent toxaemia as may exist. Further protection of the nervous system is affected by copious rectal and subcutaneous saline infusions, to which the addition of dextrose is recommended. Morphine in full doses is also advisable, in order to minimize all afferent impulses, particularly those of pain. The bowel is to be kept absolutely at rest by complete starvation, in order to diffuse as little toxin as possible (that is, "an inflamed part should be rested"). It is the recognition of these principles which at the present time enables us to say with confidence that the prognosis of acute appendicitis in small children is excellent in all but moribund cases (probably well over 90 per cent. of recoveries may be expected).

Finally, nerve blocking, by spinal anaesthesia, is indicated where there is danger of the failure of a hypertrophied heart against a marked increase of an already high blood pressure—for example, in operations for prostatectomy, where this danger exists.

2. *The Control of Mental Shock.*

In susceptible persons the following suggestions are offered: (*a*) Rest in bed previous to operation, as has been advised; (*b*) the patient should be educated and familiarized with the idea of anaesthesia and operation (see exophthalmic goitre); (*c*) the administration of morphine and scopolamine before operation; (*d*) the control of the mental factor during the induction of anaesthesia; (*e*) continuation of morphine after operation to control impulses to the higher centres, etc.

3. *The Control of Collapse.*

Collapse due to Haemorrhage.—The first indication is to make good the loss of fluid by mouth, by rectal infusion, by subcutaneous infusion, and by intravenous infusion. Details need not concern us at the present time.

Drugs.

Strychnine.—Strychnine acts by virtue of two properties—(1) by establishing the conduction of impulses across synapses which are blocked; (2) by direct stimulation of the heart. Strychnine is not indicated in collapse from haemorrhage, except, perhaps, as a cardiac stimulant in moments of emergency.

Suprarenin is valuable both as a vaso-constrictor and also because it stimulates the suprarenal glands to activity

(Elliott); and there is probably no exhaustion of these glands in haemorrhage.

Atropin is valuable in checking the loss of fluid and heat by sweating; while brandy and ether are excellent cardiac stimulants, provided the haemorrhage has been stopped and suprarenin has not been given.

Collapse due to Toxaemias.—The elimination of these is strongly indicated. We need not discuss the methods beyond saying that the copious administration of fluids is essential, and that *suprarenin* is contraindicated, since vaso-dilatation is to be desired in order to promote excretion.

Drugs.

Strychnine is exceedingly valuable during and after operations on toxic subjects. For it possesses a power of restoring the paths of conduction across the pressor synapses in such patients. This is well illustrated in Chart 52.

Curative.

With the limited time at our disposal we propose to consider very briefly some sudden deaths under operation. These are to be strictly differentiated from respiratory failure due to the anaesthetic, where the prompt performance of artificial respiration and the administration of cardiac stimulants are practically always successful. We refer in particular to those cases where anaesthesia is not primarily responsible for this contingency, and will confine our remarks to such illustrative instances as exophthalmic goître, status lymphaticus, prostatectomy, and respiratory failure in increased subtentorial pressure.

Exophthalmic Goitre.—We believe that sudden death in these cases is due to rapid pressor fatigue, followed by an equally powerful depressor stimulus, and consequent inhibition of the heart. The indications are cessation of the stimulus and injection of strychnine to restore the pressor paths and stimulate the heart; after the restoration of the pressor paths by strychnine, stimulation of the skin by cloths wrung out in hot water, etc.; the immediate adoption of artificial respiration combined with indirect cardiac massage is advised, etc. We would emphasize the importance of not applying any stimulus until after the administration of strychnine. These recommendations are based on theoretical deductions only.

Status Lymphaticus. — The characteristic clinical features of sudden death in these cases are sudden pallor, wide dilatation of the pupils, and cessation of respiration in inspiration. In unfavourable cases the pupils assume an intermediate size and remain thus fixed. These phenomena are due in the first instance to a powerful sympathetic stimulus, dominated subsequently by the direct vagus inhibition of the heart. The indications are —cessation of the stimulus; artificial respiration combined with indirect cardiac massage at once*; strychnine, to stimulate the heart and reopen the pressor synapses; atropin, to inhibit the vagus and stimulate the higher centres; powerful peripheral stimuli—for example, hot cloths, dilatation of the sphincter ani—after the injection of strychnine. We have had many opportunities to put these principles into practice, and have never had any failures with this routine.

Enucleation of the Prostate.—Sudden deaths in these cases have been already referred to. The improbability of recovery accentuates the importance of prevention by nerve blocking.

In *respiratory failure*, from increased subtentorial pressure, we should not hesitate (on the strength of the views expressed in Lecture I) to practise lumbar puncture combined with venesection as a temporary measure until operation could be performed.

The treatment of *progressive collapse from the depressor stage of shock is twofold:* (1) To treat the cause. Here the administration of strychnine during and after operation is of paramount importance. We are quite unable to agree with those who condemn this drug; such a condemnation we feel to be based on an inaccurate recognition of the pathology of shock. Morphine after operation is indicated for reasons we have given. (2) Further treatment is directed towards the alleviation of symptoms due to collapse and its sequelae, and does not come into the scope of the present lecture. We may state, however, that adrenalin is contraindicated in our opinion. For Elliott has shown injections of this drug to excite secretion from the adrenals; and these are probably already exhausted in shock. Thus their recovery by rest, rather than their further activity, is to be desired.

In conclusion, Mr. President, Fellows, and Members of the College, we both thank you heartily for your kind attention, and ask your indulgence for what may appear a summary dismissal of some of the important points in this study. But time has been our enemy. However, we hope to have convinced you that surgeons should cease to rely on a high blood pressure as an indication of the absence of shock, or on a low one as necessarily symptomatic of its presence. And if you hold that we have in any degree contributed towards the elucidation of the mechanism of shock, or that we have adduced strong evidence in support of the plea for the adoption of nerve blocking as a means of controlling shock (particularly in toxaemic children), we shall be amply repaid.

Finally, should this research incur the accusation of a strong advocacy for the use of spinal anaesthesia in suitable cases, this accusation we will gladly accept.

* The value of cardiac massage is demonstrated by tracings in animals.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

DEATH AFTER SALVARSAN.

An athletic man, aged 23, developed a non-ulcerating chancre for which he entered a nursing home, where two intravenous injections of 0.6 salvarsan were given with an interval of a week. There was no pyrexia after the first injection nor any ill effect. After the second, within forty-eight hours there were pyrexia and aching of legs. He returned home. At 7.30 p.m., when in bed, the temperature was 101.6° F. in the axilla; there was no perspiration. The next morning he was seen walking in his room in a dazed state, muttering gibberish, and dribbling from the mouth. An hour later he could talk distinctly though with difficulty, yet was unable to account for his earlier state. The temperature was 97.6° F. There was a punctate red rash on the chest and abdomen and he was sweating. At 6 p.m. he was still sweating; the temperature was 98° F.; he was seen in an epileptiform fit. The following morning there was another fit, and more followed; he was unable to swallow; respiration was rapid; fit followed fit till only the eyes and depressors of the jaw retained power to contract, and he died from respiratory failure. The breath became so faecal, though there had been no constipation, that it was thought an involuntary action of the bowels had occurred. There was no involuntary action. Urine was retained, about 10 oz. of urine being withdrawn by catheter. There was profuse secretion of mucus in the upper airway. He was unconscious for twenty hours.

W. Campbell M'Donnell, M.R.C.S., L.R.C.P.
London, N.

ETHYL CHLORIDE SPRAYING IN VENEREAL SORES.

The following experiences of the curative action of spraying with ethyl chloride on venereal sores may prove of interest. It is more especially valuable in the services, as it accelerates considerably healing of the chancre, thus limiting bubo formation. The time spent in hospital is thus reduced by about 50 per cent. in average cases.

The method employed is as follows: The ulcer is well dried and cleansed with dry cotton-wool and well frozen three times in succession with the ethyl chloride spray, until the surface of the ulcer is quite white, like hoar frost. It is more effectual to warm the ethyl chloride glass tube in a tumbler of warm water before applying it, as a better spray results. Dry iodoform and dry gauze are then applied. This is repeated daily until cure results.

This method is superior to the local use of pure carbolic acid. I have not found it valuable in commencing phagedaena in a chancre, but when active phagedaena has been prevented by pure nitric acid, free exposure and baths, it will then accelerate healing. It is not painful, and requires little experience.

It is superior in my experience to *x* rays, which I have utilized and have published the results in the British

MEDICAL JOURNAL (1909, vol. i, p. 464). I have not tried hot air, which is well spoken of and should prove valuable. I have been in the habit of applying ethyl chloride to some 15 or 20 venereal sores every morning for the past two months, and it is a distinct advance on dressings with mercury perchloride and lotio nigra, whether with or without iodoform. The patient is allowed up from noon to 6 p.m. after the first two applications, and then all day if exercise is not taken; this limits buboes. The cost is slight, as the price of a tube of ethyl chloride is about 2s. 6d., and will suffice for 15 patients for two days. This is roughly a penny a day each. After two or three days a healthy healing ulcer results, and small ulcers do not usually develop into large ones as with some other methods.

I do not say that the method is applicable to every chancre, but it is valuable in the majority. I would like to learn whether freezing kills the *Spirochaeta pallida* as effectually as it does Ducrey's bacillus, the cause of non-infective (soft) chancre, and the pus organisms so favourable to the extension and growth of venereal sores.

H. C. FRENCH,
Major, R.A.M.C.

Malta.

MINERS' NYSTAGMUS.

IT seems to me that the cause of this condition is a necessity for movement of the eye in order to be able to see with the fovea. I have shown that the fovea is blind when there is no visual purple in it, and this diffusion of the visual purple into the fovea is caused either by light falling on an adjacent portion of the retina containing rods or by movement of the eye. In the conditions usually obtaining in a mine sufficient light does not fall upon adjacent portions of the retina, and so the eye is in continual movement. It is easy to see how the repetition of this unnatural movement may cause nystagmus. I should be glad to hear from workers on the subject how this explanation of nystagmus on my theory of vision agrees with the facts observed by them, also whether the arrangement of the light in accordance with the above suggestion is beneficial.

F. W. EDRIDGE-GREEN.

The Institute of Physiology, University College, London.

ABDOMINAL ANGINA.

THE importance of the rather puzzling condition called "abdominal angina" is my apology for placing on record one other case that seems to suggest the view that such a condition is more frequently met with than understood.

At the present time I have a male patient, aged 55, suffering from typical angina pectoris; sometimes, however, instead of the pain being related to the heart it is limited to the umbilical region, the patient imagining that he has a pain in his stomach. Occasionally the patient has severe pain of neuralgic type in the rectum.

I have no doubt that the rectal and abdominal pains are related to the anginal condition, as the attacks are much less severe since the blood pressure has fallen from 190 to 150, and are at all times relieved by amyl nitrite.

WILLIAM JOHNSON SMYTH, M.D.

Bournemouth.

THE TREATMENT OF GLEET BY IONIZATION.

I WOULD like to describe a simple means for the ionic treatment of gleet, which I have lately found most efficacious. I went to many electric instrument makers hoping to find suitable applicators, but could procure an instrument for the anterior urethra only. As chronic gleet springs especially from the posterior urethra, something beyond a short straight instrument is required. It is only needful to procure a stout zinc wire some nine inches long, and bend it to catheter shape, a loop being made at its proximal end. A soft rubber catheter is perforated by a sharp punch here and there for a few inches at its distal end, or for about seven inches if the entire urethra is to be acted on. One perforation is made at the proximal end. Into this perforation the zinc rod is pushed as far as the loop. The positive pole of a galvanic battery is connected with the loop, and the negative applied to the suprapubic or other skin area by means of a moistened pad. The solution used (usually zinc or alum sulphate) is made to flow slowly through the catheter, and the apparatus is complete in action. An expensive battery is not required; a few Leclanché cells will do.

JAMES MACMUNN.

London, E.C.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

MANCHESTER ROYAL INFIRMARY.

CASE OF RETROGRADE INTUSSUSCEPTION OF THE ILEUM ASSOCIATED WITH MECKEL'S DIVERTICULUM.

(By W. H. KAUNTZE, B.A., M.B., Ch.B.Vict., House-Surgeon.)

THE patient in the following case, a boy aged 10 years, was brought to the infirmary on February 20th, with a history to the effect that he had been taken ill suddenly two and a half days before with acute abdominal pain and vomiting, and that both had persisted up till the time of admission. The patient began to vomit soon after the onset of pain, and this continued throughout, being at one time, according to the parent's statement, faecal. The pain was first of all situated round the umbilicus, and later settled down in the hypogastric region. The bowels had not been opened for four days, although enemata and purgatives had been given freely. No blood or mucus was passed per rectum throughout the illness. It was also stated that, though the patient had never been a very strong boy, he had had very fair health except for occasional attacks of colic. These attacks came on at intervals varying from four to six weeks. They were usually associated with diarrhoea, and the pain was relieved by defaecation.

Condition on Admission.—The general aspect was typical of acute intestinal obstruction in an advanced stage. The eyes were sunken, the cheeks fallen in, and the skin yellowish-grey. The patient was much wasted. Pain was localized in the lower part of the abdomen, principally on the right side, but there was a good deal of tenderness in the left iliac fossa. The abdomen was greatly distended, and the outline of coils of intestine could be plainly observed. The umbilicus was everted.

On palpation the abdomen was extremely tense, though there was little true muscular rigidity. In the right iliac fossa, a mass could be distinctly felt, which was fairly definitely limited, extending upwards to the level of the umbilicus, backwards into the right flank and inwards to within an inch of the middle line. The mass gave a distinct fluid thrill and was dull on percussion. There was also dullness in both flanks, which moved when the patient's position was changed, and indicated free fluid in the peritoneal cavity. The abdomen elsewhere gave a tympanitic note.

A rectal examination was made. This showed a soft but solid mass in the recto-vesical pouch of peritoneum, and at one point of the mass the tip of the finger could be introduced into a small depression apparently at the apex of this mass. During the course of the examination the patient vomited two or three times. The vomit showed no faecal characters, but contained much mucus, and some material, resembling coffee grounds, which was changed blood.

The temperature was 100.8° F., and the pulse 136.

Operation.—Mr. Rayner, under whom the case was admitted, decided that an immediate operation was necessary. A general anaesthetic was administered, and the abdomen opened by a vertical incision, 3 in. long, just to the right of the middle line, and going through the lower part of the right rectus muscle. When the peritoneum was opened a quantity of turbid fluid escaped. The gut was distended and paralysed, and dark purple in colour. Lying in the pelvis a large intussusception was discovered, and with some difficulty brought out of the abdominal wound. It was then seen that it was a retrograde enteric intussusception, involving the last 2½ ft. of small intestine, the neck being situated 1 in. from the ileo-caecal valve. The small intestine for a foot above the intussusception showed small patches of gangrene. The whole intussusception, together with the gangrenous piece of ileum, was excised, leaving an inch of ileum attached to the caecum.

As the child's condition was so bad as to contraindicate any prolongation of the operation, and as, furthermore, the gut was so distended and inert as to make it impossible to suture it, a Paul's tube was ligatured into each end of the severed gut. About 1½ pints of faecal material were drained away at the time, and the wound was then closed temporarily with a view to establishing an anastomosis forty-eight hours later.

As soon as the patient had recovered from the anaesthetic, salines alternating with nutrient enemata were administered through the tube leading into the large gut. The patient was also allowed liquid food by mouth (beef tea and Benger's food).

Result.—Unfortunately some sixteen hours after the operation the patient, though apparently doing well up till then, suddenly showed signs of collapse, and, despite all treatment, died four hours later. Permission for a *post-mortem* examination could not be obtained.

After the operation was over, the intussusception was examined, and sketches of its appearance are reproduced.

The first figure shows the gut when just taken from the body while distended with fluid. The whole intussusception is formed by small intestine. A marks the position of the cut end of the gut, where it was separated from the caecum. Here the neck of the intussusception D is situated. At B the gut is somewhat dilated, and it was in this part that the intussusception lay curled up when removed; B is continuous with the rest of the ileum E. In addition to a retrograde intussuception the specimen shows the presence of a Meckel's diverticulum, C; this was about two inches long, and attached to its apex was a fibrous band, F, which ran with the mesentery into the intussusception. The Meckel's diverticulum was distended with liquid faeces. The adjacent peritoneal surfaces of the intussusception were united by adhesions.

The second figure shows the specimen laid open. Here the whole intussusception is seen, lying more or less coiled up in the part of the gut marked B. The apex of the intussusception is at G. The other letters are used as in the first figure.

The case seems worthy of report, in the first place, owing to the rarity of the retrograde variety of intussusception in the small intestine. As far as I am acquainted with the literature of the subject, Leichtenstern records 593 cases of intussusception, of which 8 were of the retrograde type. He is dissatisfied even with these 8, since in all of them peritonitis was present, and retroperistalsis had already been established. D'Arcy Power has recorded

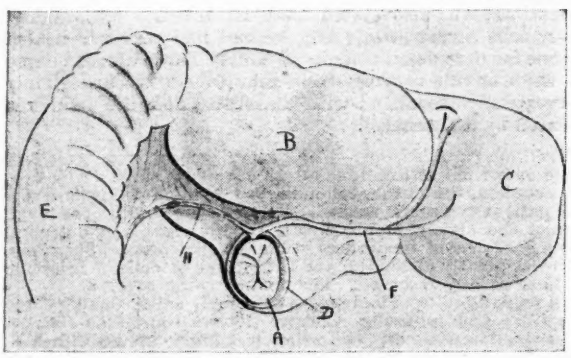


Fig. 1.—A, Distal end of ileum; B, dilated portion of ileum lodging the intussusception; C, Meckel's diverticulum; D, neck of intussusception; E, proximal portion of ileum; F, fibrous band attached to apex of Meckel's diverticulum; H, cut edge of mesentery.

an ordinary ileo-caecal intussusception associated with a retrograde intussusception which had apparently surrounded the former. He also records one in the colon (transverse into ascending colon), and Jones (quoted by Nothnagel) also one in the colon (descending into transverse colon), which survived eight weeks. Hektoen and Rigby each record a case in which a retrograde intussusception of the small intestine had occurred.

It has been stated that retrograde intussusception only occurs during the death agony, when violent peristaltic waves in all directions lead to abnormal conditions in the abdomen. This case, however, completely disproves the truth of this statement, since in the first place symptoms lasted over two days; secondly, the boy, though very ill, was not moribund; and, lastly, peritonitis had led to the formation of adhesions between the adjacent peritoneal surfaces of the intussusception.

An interesting feature of the present case was the absence of the passage of blood and mucus per rectum and the presence of altered blood in the vomit. It would seem that this was an important fact for the diagnosis of the case, since we know that the blood in the case of an intussusception comes from the mucous surface of the intussusceptum. In the ordinary form of intussusception there is no bar to the passage of blood downwards in the gut. In the retrograde form, however, the blood is prevented from passing downwards by the intussusception shutting it off from the lower part of the bowel, hence when retroperistalsis is set up blood is naturally vomited along with the other contents of the small intestine above the obstruction, as in this case.

It may further be noted that a Meckel's diverticulum was present. This in itself is not so extraordinary as to occasion remark, but the fact that apparently it had no causal connexion with the intussusception is most interesting, since so many cases of a Meckel's diverticulum causing an intussusception have been reported. It is possible that the recurrent colicky attacks associated with diarrhoea noted in the history of the case are explained by the presence of this diverticulum, but there is another explanation which still more correlates the sequence of events in this case. It has been noted that the fibrous band attached to the apex of Meckel's diverticulum was found to run with the mesentery into the intussusception. It is possible, and even probable, that this fibrous band had some attachment to the gut, leading to kinking of the bowel. This kinking would explain the recurrent colic. Then the kink would become so bad as to lead to actual intestinal obstruction with the setting up of retroperistalsis in the gut, thus bringing about a condition of affairs which favoured a retrograde intussusception, the kink in the bowel forming its apex. This seems a theory which is probably correct since it explains all the essential features of the case.

Mr. H. H. Rayner, to whom I am indebted for permission to publish this report, has kindly added the following note:

When I saw the patient, a few hours after admission, his condition was desperate, so much so that I had some doubt as to the advisability of operating at all.

The intestine for several feet above the intussusception was

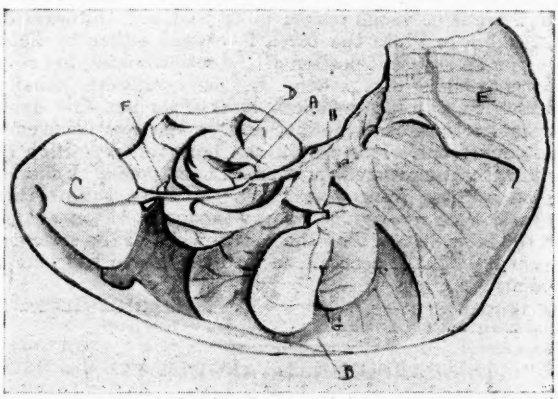


Fig. 2.—A, Distal end of ileum; B, dilated portion of ileum lodging the intussusception; C, Meckel's diverticulum; D, neck of intussusception; E, proximal portion of ileum; F, fibrous band attached to apex of Meckel's diverticulum; G, apex of intussusception; H, cut edge of mesentery.

extremely distended, and had that bluish-black appearance so suggestive of a fatal termination; furthermore, the presence of gangrenous patches in the bowel wall for several inches above the mass necessitated a resection of some 3 ft. of intestine in all. A considerable quantity of faecal fluid and gas was drained away in the course of the operation, and for some hours following it.

It would, I thought afterwards, have been better to have tied a full sized rubber catheter into the distal end of the bowel instead of the Paul's tube, so as to facilitate the injection of saline into the large bowel. However, a satisfactory quantity of fluid was administered through the Paul's tube in the lower end of the bowel, though not so easily or conveniently as might have been done had a catheter been used.

GEH.-RAT. PROF. BAELZ, the well-known expert on tropical diseases, who passed a number of years in Japan, and who claims a number of the most eminent Japanese bacteriologists as his pupils, has been compelled on account of ill health to resign his position as President of the German Tropical Society. His place will be taken by Professor Nocht, the Director of the Tropical Institute in Hamburg. Professor Nocht is well known by many bacteriologists in this country, and enjoys a world-wide reputation as a sound investigator and cautious critic.

WE feel a certain amount of diffidence in venturing to express an opinion as to the value of a new *Centralblatt* dealing with the subject of psycho-analysis. The subject is beset with difficulties and perhaps even dangers, and while the voice of the medical world has not yet spoken the last word on this subject and time will tell whether Freud's views are sound or not, it seems that the publication of a monthly journal dealing exclusively with this matter is a little premature. The journal appears in monthly numbers and the general editor is Professor S. Freud. It costs 15s. per annum, and is published by J. F. Bergmann of Wiesbaden and F. Bauermeister of Glasgow.

Reports of Societies.

EDINBURGH OBSTETRICAL SOCIETY.

Wednesday, May 8th, 1912.

Dr. HAIG FERGUSON, President, in the Chair.

Complete Absence of the Vagina.

DR. W. FORDYCE recorded a case of complete absence of the vagina, with regurgitation of blood from the uterus into the peritoneal cavity. The patient had had attacks of pain irregularly for a year, and for six months regularly once a month, the attacks being accompanied by epileptic seizures. Between attacks she was never quite free from pain. She was mentally and physically defective. On examination, the ostium vaginae and hymen were absent, the external genitals normal. Per rectum, an irregular swelling, thought to be blood in a cul-de-sac of the upper vagina but later found to be the dilated cervix, was made out. The uterus was small, and the Fallopian tubes were not distended. Two unsuccessful attempts were made to establish a communication between the swelling and the external genitals. Then laparotomy was performed, and, owing to trouble with the anaesthetic, removal of the ovaries was alone carried out, in the hope of stopping menstruation and relieving the epilepsy. At the next period the pain was again severe, and it was resolved to remove the uterus. At the time of the first abdominal operation a considerable quantity of dark, fluid blood was found in the peritoneal cavity, the small uterus was somewhat distended, the right tube was half dilated, and blood oozed from its fimbriated end. At the next operation, after the ligation of the tube, it was found that the menstrual discharge of one period had tightly distended the uterus to the size of a two and a half months pregnancy. It was punctured, and amputated as low as possible through the distended cervix. No trace even of the upper part of the vagina was found. No similar case of regurgitation of blood into the peritoneal cavity without great dilatation of the uterus and Fallopian tube had been recorded. In this instance, the interstitial part of the tube was, as it happened, patulous. The attacks of pain must have been due to the contact of blood with the peritoneum. He suggested that some cases of dysmenorrhoea might be due to blood reaching the peritoneal cavity, say from a ruptured corpus luteum. He knew from his operative experience that such blood might leave no trace of its presence, but might be absorbed without the formation of any adhesions.

The PRESIDENT recalled a case of entire absence of the vagina with a similar clinical history. The paired swelling, thought to be double haematosalpinx, was due to distension of a uterus didelphys. He believed that rupture of the corpus luteum, with escape of blood into the peritoneal cavity, had an association with dysmenorrhoea. He agreed that blood might be absorbed from the peritoneum without the formation of any adhesions.

Fibroids in Twin Sisters.

Dr. R. W. JOHNSTONE (for Professor Sir Halliday Croom) recorded the case of twin sisters, closely resembling each other in external appearance, who began to menstruate on the same day, and had regular periods till the age of 30, when in both the discharge became profuse. One sister discharged spontaneously a submucous fibroid, and later had one ovary removed for multiple tumours of the uterus, the other ovary being too adherent to admit of removal. The other sister had both ovaries removed for the same condition. In both the menopause occurred long after, at the age of 50. After an interval of a year or two, haemorrhagic discharges recurred, and each developed adenocarcinoma of the uterus, spreading from the mucous membrane to the neighbouring tissue, and in one involving a fibroid nodule.

Pubiotomy.

Dr. LAMOND LACKIE recorded three cases of pubiotomy performed for contraction of the pelvic brim. In all the conjugata vera measured 3¼ in. In the first, delivery in the Walcher position was easy. Convalescence was delayed by phlebitis. In the second the head was delivered in the R.O.P. position with difficulty, and severe pain in the left, and later in the right, sacro-iliac joint supervened. In the third, delivery was again easy, but retention of urine persisted for ten days, and was followed by a slight cystitis. Dr. Lackie thought the operation a thoroughly good one in carefully selected cases, with a conjugata vera between 3 and 3¾ in. Forceps should first be tried, and, if unsuccessful, left *in situ* till the bone was severed. He thought the conjugate diameter was increased half an inch by pubiotomy, and another half-inch by the Walcher position. The operation should not be tried in primiparae. The infantile mortality was much lower than in induction of premature labour, and the operation was safe for the mother. The statistics also compared favourably with those of Caesarean section.

Dr. W. FORDYCE said he had learnt that in Manchester the death-rate under 1 year and under 5 years was smaller in prematurely born than in full time children, perhaps because of greater care on the part of the mothers.

Dr. KEPPIE PATERSON said that the immediate fetal death-rate of 35 per cent. in the induction of premature labour compared unfavourably with his figures in private practice.

Dr. JAMES YOUNG referred to a case of pubiotomy recently communicated by him to the society, performed for contraction of the pelvic outlet. Like Dr. Lackie, he had found that the bones did not spring apart immediately after section. It was doubtful if any extra space was given by the adoption of the Walcher position after pubiotomy.

Dr. ARMOUR asked whether the Walcher position had been made use of before pubiotomy, and, if so, with what result.

Dr. JOHNSTONE said it had been urged against pubiotomy that it resulted in a diminution of the size of the outlet. He believed this did not occur in practice.

The PRESIDENT said that he thought pubiotomy should not be performed when the head was above the brim, but only when forceps had been applied and the head was partially engaged. He did not agree that 1 in. was gained by the combination of pubiotomy and the Walcher position. The great benefit obtained by the operation was an increase in the cavity and at the outlet. Hence it was indicated in contractions at the outlet.

Dr. LAMOND LACKIE said that the separation of the bones occurred only when the head entered the brim. He quoted other authorities in support of his view that pubiotomy along with the Walcher position gave an increase of an inch. Pubiotomy must add something, seeing that in two of his cases delivery was not effected by the Walcher position alone. He did not agree that it should not be performed unless the head was engaged at the brim.

Exhibits.

Specimens were shown by Dr. B. P. WATSON (for Dr. Barbour), and by Dr. W. FORDYCE. Among them were a fibroid tumour of the uterus weighing 32 lb., and a large fibro-myxomatous tumour of the mesentery.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF STATE MEDICINE.

Friday, April 12th, 1912.

Dr. M. J. NOLAN, President, in the Chair.

Non-notifiable Infectious Diseases.

SIR JOHN MOORE drew attention to the fact that certain infectious diseases not notifiable in Ireland—measles, whooping-cough, influenza, diarrhoea, and pneumonia—levied a high death-toll on child life. In 1910, for example, they were responsible for 29 per cent. of the total infantile mortality. As remedies, he advocated: (1) The extension of the principle of notification as laid down in the Infectious Diseases Notification Act, 1889—a measure which should be universally adopted in Ireland as it had been long since in Great Britain; (2) a reform as to the lower limit of age for school attendance, so as to forbid the admission of children to schools under five years; (3) the introduction into Ireland of systematic inspection of schools; and (4) the appointment of female sanitary inspectors by all urban and rural sanitary authorities under the provisions of Section 11 of the Public Health (Ireland) Act, 1878.

The PRESIDENT said that permissive legislation in medical matters ought to be discontinued, and especially so

with regard to notification of infectious diseases. He also agreed that children should not be sent to school before the age of 5, as epidemics usually arose amongst the very young children.

Sir William Thompson (Registrar-General) pointed out that Pembroke was the only district in Ireland where the notification of measles was compulsory, and the death-rate in that district from the disease was very much lower than in others.

Dr. Kirkpatrick did not look upon notification as the panacea for infectious diseases. Measles some time ago was a notifiable disease, but, as a result of the experience obtained, it had been given up, not by the local authorities but on the recommendation of the medical officers of health in England, on the ground that notification had failed to be of any use.

Dr. J. M. Day was of opinion that it was wrong to attribute all these deaths to measles. Measles was the scavenger disease of a city. Notification would not effect an improvement. One of the powers which medical officers of health had was the appointment of nurses, and he wondered why this power had not been exercised in Dublin. As to the age when children ought to be sent to school, children were sent there so that mothers might have more time to attend to household duties. He could not see what use it would be to notify cases of pneumonia, as there was little evidence that there were many cases contracted by contact.

ROYAL SOCIETY OF MEDICINE.

Obstetrical and Gynaecological Section.

At a meeting on May 2nd, Dr. Herbert Spencer, Vice-President, in the chair, Dr. Macnaughton-Jones recorded a case of *Ganglion neuroma* of the mesentery in a girl aged 18. The tumour which it formed had been noted when she was aged 5. It was not painful, the only symptoms being constipation and sickness; but since in the past year it had increased in size with some rapidity it was decided to remove it if possible. The tumour was situated between the layers of the mesentery, and was attached by some nine inches through the root of the latter to the vertebral column. There was rather severe haemorrhage during its final delivery. The patient ultimately made a good recovery. The exhibitor pointed out that such tumours were extremely rare, and he could find no previous record of one in this particular situation. Mr. Cuthbert Lockyer recorded a case in which he had had to perform *Embryotomy* after bipolar version for placenta praevia. The cervix, which admitted two fingers, continued to be resistant for two hours after a leg had been brought down; so, since the fetus had died about half an hour previously, it was decided to reduce the size of the fetal breech by incising the pelvic bones with stout, curved scissors. With difficulty the breech, and subsequently the shoulders and head, were delivered. The placenta was expelled spontaneously. The vaginal mucous membrane escaped laceration, but the perineal body and skin sustained a Λ-shaped tear, the apex of which was at the fourchette, and the two limits of which diverged to either side of the anus. The patient made an uninterrupted recovery. The fetus weighed 9 lb. Dr. A. W. Russell (Glasgow) described a method devised by himself for the performance of *Extraperitoneal Caesarean section*. He had employed it in 7 cases, including one case in which, owing to the bladder when filled not rising above the brim, the peritoneum had to be incised and the classical operation was performed. This patient was again admitted under the care of Dr. Munro Kerr a month ago, and the child delivered by the ordinary Caesarean section. Except for a few peritoneal adhesions, there was no sign of the previous operation. The other 6 cases were deliberately arranged, and completed as extraperitoneal Caesarean sections. They all had deformity; were all more or less advanced in labour; had all been handled, and 2 of them had a temperature at the time of the operation. One patient, who died as the operation was being completed, was a case in which, owing to the fetal heart being reported to be irregular and feeble, the patient was submitted to the full test of labour in the hope that the cervix would dilate and moulding of the head take place. When some hours later the fetal heart was found to be regular and strong, the extraperitoneal operation was decided upon, and but for the accident of the anaesthetic the patient would also have done well. Dr. Walter Sawyer (Clifton), in a paper on the *Clinical significance of acidosis in pregnancy*, drew the following among other conclusions: (1) The existence of albuminuria in pregnancy should always lead to investigations to ascertain the presence or absence of diacetic acid and acetone, and in certain cases, if these are absent, to the calculation of the urea and ammonia-nitrogen ratio; (2) the presence of albuminuria being one indication of the pre-eclamptic state, if diacetic acid and acetone are present the indication so given is confirmed; (3) in the presence of any symptoms which indicate the presence of a pregnancy toxaemia the tests for diacetic acid and acetone should be applied, and urea-ammonia-nitrogen ratio worked out; (4) the presence of acidosis in cases of vomiting is not due to starvation alone, but in great part to a pregnancy toxaemia; (5) acidosis, as generally found in diabetes, indicates the breaking down of fat owing to absence of glycogen. In pregnancy it probably indicates the same thing, but administration of glucose neither prevents it altogether nor leads to excretion of sugar in the urine.

Section of Laryngology.

At a meeting on May 3rd, Dr. StClair Thomson, President, in the chair, the following were among the exhibits: Mr. Douglas Harmer and Dr. Lewis Jones: A demonstration of diathermy in connexion with malignant growths of the mouth and pharynx. Several cases illustrating the beneficial action of the method were exhibited. Mr. W. Stuart-Low: A case of *Chronic loss of voice* in a man. The epiglottis was reduced to a stump, and the ventricular bands and vocal cords had been deeply eroded. The President regarded the case as one of lupus, and remarked that the date of onset of hoarseness, depending as it did upon the date of infection of the vocal cords, was no criterion as to the actual duration of the disease. Dr. A. S. Cobbledick: A case of *Double ethmoidal mucocele*. The general opinion was that such cases should be treated by the intranasal route. Dr. Lambert Lack: A case of *Chronic oedema of the fauces and larynx*. The condition had shown no alteration during the five years that the case had been under observation. Sir Felix Semon held that the term "chronic oedema" was inappropriate to conditions such as this, since pathological examination revealed nothing but round-cell infiltration. Inasmuch as the swelling might recede, a term which had been proposed as an alternative—namely, "sclerotic hyperplasia"—was also inapplicable. The exhibitor believed the lesion to be of syphilitic origin—a view which was supported by a positive Wassermann reaction. Dr. D. R. Paterson (Cardiff): A case of *Sarcoma of the thyroid*. Death had occurred as a result of haemorrhage into the trachea, following perforation of the latter. Dr. Bardswell: A case of *Laryngeal stenosis* brought about by what was probably tuberculous infiltration. Mr. Norman Patterson: A case of *Malignant disease of the pharynx and tongue*. The patient, a man aged 56, had been successfully operated on two years ago; so far no recurrence had been observed. Mr. Seccombe Hett: A case of *Laryngo-fissure*. The operation was performed for intrinsic carcinoma affecting the left vocal cord and anterior commissure. The voice had not returned since the operation, and this the exhibitor and other speakers thought might be remedied by vocal exercises. Mr. Cyril Horsford: Another case of *Laryngeal stenosis*, which was due to syphilitic infiltration, and was improving under iodides and mercury. Mr. G. J. Jenkins showed a case of *Epignathus*, or teratoid tumour of the nasal septum and base of the skull. The patient was a child aged 1½ years with cleft palate. Dr. StClair Thomson related the case of a patient who had worn a *Tracheotomy tube* for fifty years without obvious injury to health. Dr. Andrew Wylie: A case of *Specific ulceration of the tongue*, nasal septum, and larynx. The tongue showed an area of hardness which had raised suspicions of malignancy. Dr. William Hill: Skiagrams illustrating successful treatment of *Non-malignant stricture of the gullet*. Dr. Dan McKenzie: A case of *Bilateral oedema of the ethmoidal septum*, associated with nasal sinus suppuration. Drs. Fitzgerald Powell and L. College: A woman exhibiting *Fixation of the left half*

of the larynx. Dr. J. MIDDLEMASS HUNT (Liverpool): A woman, aged 44, with a *Bony growth of the nose and naso-pharynx.* Malignancy was suspected.

LIVERPOOL MEDICAL INSTITUTION.

AT a meeting on May 2nd, Mr. ROBERT JONES, President, in the chair, Mr. G. NEWBOLT showed a case of *Subclavian aneurysm* in a woman aged 50. He had successfully ligatured the first part of the left subclavian artery, 1½ in. of the clavicle having been first removed. Dr. G. V. FLETCHER read a note on the *Treatment of whooping-cough* by the oral administration of small doses of adrenalin. Dr. R. A. BICKERSTETH, in a short paper on the *Catheterization of the ureters* and its uses, said he rarely used a general anaesthetic, as with the patient conscious there was less chance of injuring the parts. The catheter was useful as a probe or searcher in aid of the cystoscope, as in villous growth where the stalk involved the ureteral orifice, and in sacculated bladder. It might be used to obtain specimens of urine from each kidney, but as the catheter was of fine calibre the separator was preferable for this purpose. It was useful for strictures and obstructions in the ureter. The renal pelvis or the ureter could be washed out by its help. It could be used to estimate the degree of dilatation of the renal pelvis and calyces by injecting normal saline; the patient felt the same pain when these cavities were filled as in his attacks. In operating it was useful to have a catheter in the ureters for their protection. Mr. Bickersteth showed lantern slides illustrative of various points. Dr. C. J. MACALISTER, in a paper on the *Aesthetics of medicine*, spoke of the effect of medicine in increasing beauty, especially by the prevention of small-pox, and quoted Steele in the *Spectator* and Dickens in *Bleak House* as illustrative of the effect of the loss of beauty on the mind. Civilization was responsible for some defects, desuetude and constitutional disease produced deformity, as in the case of the teeth, which suffered from the use of soft, starchy food; mothers might be educated in the principles of a dietary. Dr. Macalister alluded to the effect of outdoor life and fresh air on the children at the Country Hospital for Children at Heswall in increasing the physical beauty of those who were under treatment for any length of time. He thought children in our large towns suffered from the environment of unrest.

WIGAN MEDICAL SOCIETY.

AT a meeting on April 17th, the PRESIDENT (Mr. T. M. Angior), in a paper on the *Value of suprarenal extract in Addison's disease*, expressed his adherence to the adrenal inadequacy theory of the causation of the disease, and then read the following notes of some cases which had been under his own care. Case I. A middle-aged man, father of three healthy children; no phthisis or tuberculous history. Complained of pain and tenderness in the back, and of weakness. On examination he was found to have a very compressible pulse, considerable muscle weakness, various pigmented areas in the skin and buccal mucous membrane, and he had had several attacks of syncope. Under treatment with tonics, nux vomica, etc., there was no improvement, but he began to improve shortly after being put upon 6-grain doses of suprarenal extract three times a day, with complete rest in bed at first, and good feeding. After a time he returned to work, and later still relinquished his medicine. Some months later, following some extra trouble and anxiety in his business, he again got symptoms of heart failure, etc., but was soon picked up again by the extract. Case II. Another man; no history of phthisis. Usual symptoms present, pigmentation being much more prominent than in the first case. Here also there is improvement, and the man is at present under treatment. Case III. Yet another man, aged 48; again no history nor signs of phthisis. Gastric symptoms and syncopal attacks a leading feature, and also some pigmentation. This case is under treatment and improving steadily. One group of cases seen by him at the Stanley Hospital, Liverpool, contained a mother, son, and daughter, all under treatment at the same time. The mother was getting as much as 20 grains of suprarenal extract three times a day. He had been able to attend *post-mortem* examinations in two cases, where the only discoverable lesion was some fibrous degeneration of the suprarenal glands. Dr. REES thought long-continued use of suprarenal extract might produce arterio-sclerosis. Dr. CAMPBELL said arterio-sclerosis could not result from treatment, as the extract was not absorbed owing to its action on the gastric blood vessels.

NORTH OF ENGLAND OBSTETRICAL AND GYNAECOLOGICAL SOCIETY.

AT a meeting on April 19th, Dr. LLOYD ROBERTS, Vice-President, in the chair, Dr. BRIGGS (Liverpool) described (1) a case of *Benign adenoma* of the body of the uterus, accompanied by salpingitis and an old pyosalpinx. The patient, aged 51, had been married twenty-five years, and the youngest of her five children was aged 15 years. Her uterus had been prolapsed for about fifteen years, and a pessary was worn without discomfort until nine months ago, when a persistent daily metrostaxis commenced; a chronic cervical erosion and a recent senile vaginitis complicated the diagnosis. The case was treated by vaginal hysterectomy, the left tube being also removed. (2) A case of abdominal section for localized *Suppurative puerperal peritonitis*, accompanied by right oöphoritis, cellulitis, and slight salpingitis. The patient was aged 21, and the condition followed natural labour on February 21st. Cultures from the Fallopian tubes were obtained on blood serum of a short Gram-positive bacillus, giving an acid reaction in litmus media, forming gas in glucose and lactose and coagulating milk. (3) Another case of the same kind, which was similarly treated. Cultures on blood serum from the left Fallopian tube consisted of a Gram-positive diplococcus. Dr. GEMMELL (Liverpool) read a note on 3 cases of *Pregnancy with complications.* (*a*) Left chronic inflammatory appendage disease, with adhesion to the pelvic floor and to the uterus, simulating a fibroid in the left cornu of the uterus, leading to fixation of the uterus and previous abortions at ten to twelve weeks. With the uterus pregnant the adhesions were separated and the patient well, with the pregnancy now advanced beyond the fourth month. (*b*) Pregnancy at the third month, with signs and symptoms of peritoneal crises and internal haemorrhage. Abdominal section disclosed a normal pregnancy and severe haemorrhage from an intercapsular rupture of the spleen, without any history or sign of trauma. The spleen when removed was twice the size of the normal, with an extravasation of blood on its outer edge, subcapsular, and giving the appearance of a soft spongy growth. Microscopical sections had so far not exhibited any definite pathological change in the splenic tissue, but the histological investigation was not yet complete. Death took place in forty-eight hours, and at the necropsy all the other abdominal viscera were found to be normal. (*c*) Pregnancy at the sixth month, with a large appendicular abscess completely shut off from the general peritoneal cavity, and filling the utero-vesical pouch, forming a broad cystic swelling in front of and moving with the uterus. Incision and drainage was followed by premature labour, and improvement for a few days, with subsequent uterine infection and death. Dr. LEITH MURRAY (Liverpool) read a short paper on *Red degeneration of fibroids*, confirming a previous communication. The most thorough investigation by culture had proved three further specimens sterile both aërobically and anaërobically. A certain amount of thrombosis was present in all, but this had no relation to the haemolysis, but appeared rather to be proportionate to the severity of clinical symptoms. The conclusions drawn were that the condition is not an infection, that the thrombosis is secondary to a lipoidal haemolysis, that haemolysis is going on in every necrobiotic fibroid, but that this may be masked by a rapid bleaching action which can readily be demonstrated *in vitro*, and that the degeneration does not necessarily produce typical or in particular acute clinical signs.

ULSTER MEDICAL SOCIETY.

AT a laboratory meeting on May 9th, Dr. MCKISACK, President, in the chair, Professor SYMMERS, in opening a discussion on *Diphtheria and diphtheria carriers*, confined himself to one point. While working with urea, he

noticed its strong disinfecting action; it was very soluble, harmless in strong solutions to animal tissue, and he suggested it as a spray to infected throats. Dr. WILSON said it was remarkable that as the diphtheria bacillus disappeared a staphylococcus took its place; in addition, yeast became more and more evident, which was not found in tonsillitis. He had inoculated three guinea-pigs—one with diphtheria culture, another with diphtheria *plus* staphylococcus, and a third with diphtheria, staphylococcus, and yeast. The two former died quickly; the third was apparently uninjured. This problem was worth working out, and he suggested tablets of glucose to suck in cases of convalescent diphtheria. As regards microscopic diagnosis, he thought that Gram-positive bacilli without granules were frequently a form of the true bacillus. Dr. DICKSON believed that the clinical examination was uncertain in its results. He had made something like 1,100 swab examinations and described his method; 75 per cent. of his positive results from direct examination were confirmed by cultural methods. Some 35 per cent. of all swabs were positive. There were cases where the clinical examination was against diphtheria, which proved on bacteriological examination to be positive; others in which clinical examination suspected diphtheria, that revealed a streptococcal growth, Vincent's angina, etc. Lastly, there were cases in good health, in which the microscope revealed the diphtheria bacillus, either in contacts or in carriers. Dr. ROBB said that in his experience clinical examination was more reliable than bacteriological. Some 7 per cent. of healthy children in schools showed the presence of the diphtheria bacillus, 15 per cent. of a children's hospital gave the same result. The figures from Copenhagen showed a larger number of "returns" from the negatives than from the positives. At Purdysburn only 2 out of 800 cases gave "return" cases. On the whole he thought there was some *tertium quid*, and they had not reached finality. Sir JOHN BYERS thought there should be a close union between bacteriology and clinical work; there was something beyond the bacillus. What proof had they that the "return cases" were infected by the previous patient?

MEDICO-PSYCHOLOGICAL ASSOCIATION.

THE spring meeting of the Northern and Midland Division of the Medico-Psychological Association was held at the Garlands Asylum, Carlisle, on April 18th, under the chairmanship of Dr. FARQUHARSON. Dr. J. R. S. ANDERSON, in a paper on *Insomnia*, dealt with the various causes of the condition, and especially its relationship to the insane. He considered the various drugs in use for producing sleep and the methods of treatment that might be beneficial. Dr. FARQUHARSON, Dr. MCDOWALL, and others spoke on the paper, and a suggestion was put forward that a collective investigation on the use of sedatives in certain classes of cases might be attempted by the association. Dr. T. W. MCDOWALL read a paper written jointly by himself and Dr. COLIN MCDOWALL on *Abnormal development of scalp*. He referred to a case reported by Poggi in 1884, and said that since that date a few writers had published cases and ventured on various explanations. He himself had published an account of a case in 1893. He gave a short description of cases recorded by Poggi, Lombroso, Gatti, Bravetta, and others, stating that Bravetta was of opinion that the furrows described by Poggi, etc., and found in degenerates, are only the continuations and exaggerations of the frontal furrows; they are found in some animals, as dogs, cats, lions, and monkeys. He described and illustrated by photographs a case at present in Cheddleton Asylum. He said that two questions were naturally suggested—on what do these abnormalities depend, and what significance should be attached to them? After a description of Langer's lines, illustrated by several photographs, he said that he was inclined to agree with the opinion of Professors Kundrat and Kaposi that "the brain had not advanced in growth, but the skin was sufficient for a normal skull and had developed independently in accordance with its own capacity for growth. But because the contents to be surrounded remained too small, the normally large skin was forced to arrange itself in folds over the small skull and in parts became atypic—that is, hypertrophied during development." Several members joined in the discussion. Dr. PARKER read a paper on a case of *Dementia praecox*. The patient was a Jew, aged 36, admitted to Wakefield Asylum. He had a neurotic family history, and when admitted was suffering from melancholia, being impressed with the idea that there was a plot to convert him to Christianity. He improved rapidly in the asylum, and was discharged "recovered" after three months. Four days later he was readmitted—excited, violent, talkative, and destructive. He gradually lapsed into a cataleptoid state, becoming deeply stuporose, and requiring feeding and catheterization. This state gradually merged again into one of excitement, singing, dancing, etc. The question this case suggests is—what significance, especially in a prognostic sense, is to be attached to the mild delusional state which the patient presented when first admitted? Dr. Parker considered that the early paranoid symptoms in the case bore a close resemblance to those of acute curable paranoia, though the subsequent development was essentially different. It would thus appear that dementia praecox might first manifest itself in an atypical form by a mild delusional state, only differing from other mental disorders with a much less serious prognosis by the presence of hallucinations.

ASSOCIATION OF REGISTERED MEDICAL WOMEN.

AT a meeting on May 7th, Dr. DICKINSON BERRY in the chair, papers were read dealing with various aspects of the work of *School medical inspection*. Dr. SEEKINGS, Assistant School Medical Officer to the Tottenham Education Committee, gave an account of the routine duties of a school doctor. Mornings were usually devoted to the systematic examination of children entering and leaving school, in accordance with the statutory requirements of the Board of Education. Afternoons were occupied by such varied duties as the examination of special children sent up by attendance officers, the visitation of schools to investigate sanitary conditions or outbreaks of epidemic disease. School dinner centres had also to be inspected and classes on infant care, hygiene and mother craft to be supervised. At Tottenham one whole day a week was devoted to the recently inaugurated eye clinic. Increased interest in the welfare of their pupils had been aroused among teachers generally. Routine inspection entailed the examination of many normal and healthy children, but the conditions frequently revealed were of the greatest interest, and afforded material for research work in various directions. Dr. WILSON, Assistant Medical Officer of Health at Acton, speaking of some of the difficulties encountered in school work, said that first among these was that of obtaining the active co-operation of parents. Industrial conditions in the district, where a large amount of female married labour prevailed, were largely responsible for this. Other factors which militated against the aims of inspection were short hours of sleep among many of the children, and work out of school hours to augment the family income. Endeavours to combat these defects consisted in the provision of school dinners, of country holidays, and similar institutions. The speaker deplored the lamentable ignorance displayed by many parents as to the value of eye examination, the work of the oculist being often frustrated by very trivial excuses. Unsuitable clothing was another difficulty that had to be dealt with. By far the commonest mistake made was to overclothe the children, the garments in some cases reaching an almost incredible number. Defective carriage and postures were not infrequently due to tight or ill-fitting clothes. Reference was made to the numerous entertaining superstitions encountered among the parents, above all to the mysticism surrounding the charmed age of 7. Dr. PRUDENCE GAFFIKIN, School Medical Officer at Enfield, dealt with some of the side-issues and underlying principles of the work, the interest of which was greatly enhanced if some special subject were taken up for investigation. As examples were mentioned problems in connexion with the economic side of child life, the influence of the period of lactation, or of the quality and quantity of food supplied. The speaker herself was particularly interested in rickets, laid stress on the frequent manifestations of the disease, and mentioned an interesting association she had observed between rickets and profuse menstruation. Investigations such as these robbed statistics of their proverbial dullness.

Reviews.

PARASITIC PROTOZOA.

IT is remarkable to find a third edition of a work such as Professor DOFLEIN'S *Lehrbuch der Protozoenkunde*[1] following so closely upon the second (1909). It is not a book which can appeal to a very numerous circle of readers, even admitting that it is indispensable to those interested in the subject; and, although the issue of the previous edition is exhausted, the chief necessity for a new edition must arise from the fact that advance in knowledge has been phenomenally rapid. Hitherto it was not unusual for a work of such compass to remain unedited and unchanged for a decade or even a generation without challenge and without loss of prestige. Modern science, however, moves more swiftly, and the present-day scientific mind is above all things *studiosa rerum novarum*. We have grown so accustomed to the kaleidoscopic changes that we are impatient of any monotonous run of "accepted beliefs," and we are always only too ready to replace the facts of yesterday by the discoveries of to-day and even the anticipations of to-morrow. Yet Professor Doflein's textbook is a sober record of steady progress. The general plan of the work is not materially altered, as will be gathered from Professor Minchin's exceedingly comprehensive and able review of the second edition (BRITISH MEDICAL JOURNAL, January 15th, 1910, pp. 142–3). The chief interest is to note the changes and improvements which have been made. In the first place there has been a considerable increase in bulk—nearly 150 pages—and a like number of illustrations have been added. Such an increase brings us near the limit of magnitude of a single volume, and it would be perhaps advisable that any further increase should be accompanied by a division into two parts. The illustrations, as in the second edition, are particularly good, and we are glad to notice that many, and indeed not a few of the best, are reproductions from the work of British artists. As might naturally be expected, it is in the "special part" that the principal changes have been made. The changes, however, are not of any sweeping character, and chiefly relate to matters of detail. One of the most important alterations is in regard to the taxonomy of the trypanosomes and their allies. Professor Doflein has radically altered his opinion in this matter, and has come into line with the view expressed in the previous review. The genera *Herpetomonas*, *Leptomonas*, and *Leishmania* are now included with *Trypanosoma* in the family *Trypanosomidae*. Several changes are to be noticed in the classification and relationships of the *Coccidia*, though none of these are of striking interest from a medical point of view. It may be remarked, however, that the haemogregarines are included along with the *Coccidia* and so removed from the *Haemosporidia*. That most remarkable group the *Chlamydozoa* is merely mentioned, and the author, although not denying their existence as organisms, considers that they are of bacterial rather than protozoal nature. As a work of reference and as a guide to existing knowledge Professor Doflein's textbook could hardly be improved upon at present. Its usefulness is greatly aided by a very full index of authors and subjects.

In *The Parasitic Amoebae of Man*,[2] Captain C. F. CRAIG deals with a subject to which he has devoted a considerable amount of personal attention, and one which is of no little importance to the student of tropical medicine. It was only fifty years ago that Lambl made the first discovery of amoebae in the faeces of man. No great importance was attached to these observations, and it was not until twenty-five years later that Kartulis demonstrated the close connexion between amoebae and dysentery. Even these results, in spite of the obvious interpretation to which they were open, were ignored, and it required the classical monograph of Councilman and Lafleur in 1891 and the later epoch-making researches of Schaudinn in 1903 to establish the pathogenic nature of the amoebae and their relation to disease. Captain Craig himself has, during the last decade, been largely instrumental in furthering our knowledge of these organisms, and his present work has on that account the much-desired advantage of being a summary of first-hand knowledge. It is therefore a competent work, treated in a satisfactory and able manner. It gives, as one would expect, a general account of amoebae and of the technique for their identification and cultivation. It also gives a very full account of the morphology and life-history of the numerous species of Entamoeba which have been described from man, not only from the intestine, but also from the mouth, from the urinary tract, and from various lesions in the body. In addition to full descriptions of the various species, their bionomics are discussed. Numerous carefully executed illustrations enhance the value of the book, which can be thoroughly recommended to all those interested in the subject.

Four years have elapsed since the publication of the second part of Mr. JACKSON CLARKE'S *Protozoa and Disease*, and now the third volume appears boldly under the title of *The Cause of Cancer*.[3] Over ten years ago, before the transplantability of animal tumours gave such a fruitful field for the experimental investigation of malignant disease, the parasitic theory of the causation of cancer had many supporters, and though, indeed, it cannot be said that recent observations have definitely excluded such a causal agent, yet it is doubtful if, of the various writers who believed that they had identified a parasite in malignant disease, many now adhere to their former faith. Mr. Jackson Clarke is still faithful. His cancer "protozoon" is the same as the "psorosperm" that he demonstrated twenty years ago to the Pathological Society of London. The Morbid Growths Committee of that society reported on his preparations and severely criticized his views, and much of the book is given up to this long-forgotten matter. He is now anxious that his claims should be retried by other judges conforming more to his standard of capability. "In all this land," he says, "there may be but *one* so fitted, and it is he that brings this appeal." He gives no very definite reasons why he concluded that he was dealing with a parasite. Several figures in the text and numerous drawings at the end of the book show the various stages of the protozoon as they appear to him—not, perhaps, as they would appear to others, for he has found that "you may take a pathologist to the microscope, but you cannot make him try to see what is under it." To Mr. Clarke's eyes the "cell-inclusions"—a loose though convenient term for various microscopic structures, the real origin and nature of which are in most, if not all, cases perfectly well known nowadays—are stages in the life-history of some protozoon, and, consequently, this protozoon is the cause of cancer.

THE UPPER RESPIRATORY PASSAGES.

THROUGHOUT the whole gamut of laryngology, and, in fact, of medical and surgical practice, it would be difficult to mention a condition more distressing to the patient and to the friends of the patient than that of laryngeal stenosis. It would be equally difficult to mention a condition that at times has so hopelessly baffled the resources of medical and surgical science. Reference is not made to sudden cases of laryngeal obstruction that have to be relieved by tracheotomy, but more particularly to cases of gradual onset, and to those in which tracheotomy has been performed, and subsequently the tracheotomy tube cannot be dispensed with. The patient—not uncommonly a child—exhibits a condition in which a structure which should be a joy to the parents becomes a veritable citadel of misery. This subject has been discussed within recent years in the medical societies, but it was more fully discussed at the meeting of the British Medical Association in Belfast in 1909; it came up again incidentally for discussion at the Royal Society of Medicine in May, 1911. Those desirous of gleaning the modern views on this matter could not do better than study the reports of these two discussions (BRITISH MEDICAL JOURNAL, October 16th, 1909, pp. 1140–1149; *Proceedings of the Royal Society of Medicine*, vol. iv,

[1] *Lehrbuch der Protozoenkunde.* Von Dr. F. Doflein. Dritte stark vermehrte Auflage. Jena: Gustav Fischer. 1911. (Sup. roy. 8vo, pp. 1055, 951 Abb. M. 26.50 broschiert; M. 29 gebunden.)

[2] *The Parasitic Amoebae of Man.* By Charles F. Craig, M.D., Captain, Medical Corps, United States Army. Philadelphia and London: J. B. Lippincott Company. 1911. (Med. 8vo, pp. 263, figs. 30. Price 10s. 6d, net.)

[3] *The Cause of Cancer.* Being Part III of *Protozoa and Disease.* By J. Jackson Clarke, M.B., F.R.C.S. London: Baillière, Tindall, and Cox. 1912. (Fcap. 4to, pp. 124; 11 plates. 7s. 6d.)

No. 7; *Proceedings, Sec. Laryngology*, April, 1911, pp. 109–112), but in addition, we would refer readers to Professor BOKAY'S[4] monograph on intubation of the larynx. In his preface the author cites authorities for the statement that intubation of the larynx is "one of the great advances in this age of medical discovery." Dr. Joseph O'Dwyer died in New York on January 7th, 1898, and with his name will ever be associated the form of medical relief with which we are dealing. For various reasons, partly owing to the difficulty at times in introducing the tubes, and partly owing to a lack of experience as to the length of time that the tubes ought to be left *in situ*, intubation of the larynx has not received the attention to which it is entitled, and has fallen out of practice. Readers of the discussion at Belfast will realize that their views about intubation of the larynx have been completely revolutionized by the work done in America. They will realize that it is useless to put in an intubation tube for a week or two, or only for a night, but that such tubes have to be worn night and day continuously for months, and even for years. Of course, time alone will prove the value of this procedure, but, in view of the distressing conditions which have to be relieved, Professor Bokay's monograph will be studied by a large number of practitioners directly interested in the subject. Professor Bokay has dealt exhaustively with the technique and the indications for the practice of intubation; his work is most welcome at a time when the means of remedying the stenosis of the larynx resulting from cicatricial conditions is occupying the attention of the profession.

In the flood of textbooks and atlases describing and illustrating the appearances revealed by modern endoscopic methods the pathological picture has been far from prominent. It is, therefore, with the greatest interest that we turn to Dr. MANN'S *Atlas of Killian's Tracheo-bronchoscopy*,[5] which consists of a collection of coloured pictures of the pathological appearances in the organs removed in cases in which the nature of the disease had been revealed, or, at all events, investigated clinically by means of bronchoscopy and oesophagoscopy. It is a collection of twenty life-size coloured plates to which are attached short accounts of the clinical symptoms, the endoscopic appearances, and the causes of death. They are taken from 15 cases which were chiefly characterized by tracheal stridor; 4 of them were concerned with the thyroid gland; in 2 cases carcinoma of the oesophagus had invaded the trachea; aneurysm accounted for several; and among the whole collection of cases there were 3 of carcinoma, involving respectively the right and the left main bronchi, the lower portion of the trachea, and both bronchi. A case of scleroma is included, and in some cases there were evidences of syphilis, quite a common cause of tracheal stenosis, though from the curable nature of the disease less frequently found on the *post-mortem* table than at the bedside. Among the interesting endoscopic appearances we may note spreading out of the carina produced by a growth below the bifurcation. The cases are extremely typical, and the appearances very artistically and realistically produced. This atlas should be carefully studied by every laryngologist and endoscopist. The English translation has been made by Mr. THOMAS GUTHRIE of Liverpool, who has already done service to British specialists in a similar way. This work affords the most rigid criterion of the value of this method of clinical examination, and it will be agreed that it has stood the test thoroughly, as this atlas shows. It is no wonder that such pictures as were demonstrated before the Society of German Laryngologists won the approbation of all who saw them.

In reviewing the second edition of Dr. FEIN'S little volume[6] of hints in the treatment of diseases of the nose and larynx, there is little to be added to the praise given to the first edition. Only a few slight additions have been made. There is now a section on acute catarrh, and there are a few further illustrations. The author has wisely avoided packing and expanding the text with details and information unessential for the general practitioner, for whom the book is intended. The hints with reference to nasal haemorrhage are useful, also those with respect to blowing the nose, a point generally neglected but of real importance to the subjects of nasal disease. Stress is laid upon the importance of proper breathing exercises after the removal of adenoids and tonsils. Attention is also drawn to the aid that prosthetic dentistry can give in cases of bony deformity of the jaws in these cases. There is nothing but praise for this small book, and, for those who do not read German, there is an English translation of the first edition, which is practically identical with the second, and which can be confidently recommended to the general practitioner.

[4] *Die Lehre von der Intubation.* By Professor Dr. J. Von Bokay. With 113 illustrations and 2 tables in the text. Leipzig: Verlag Von F. C. Vogel. 1908. (Demy 4to pp. 262. M. 10.)

[5] *Atlas of Killian's Tracheo-bronchoscopy.* (Coloured plates representing pathological preparations from cases examined during life by means of tracheo-bronchoscopy.) By Sanitätsrat Dr. Mann, Director of the Ear, Nose, and Throat Department in the City Hospital, Dresden Friedrichstadt. Translated by Thomas Guthrie, M.B., F.R.C.S., Liverpool. London: John Bale, Sons and Danielsson, Ltd.; and Würzburg: Curt Kabitzsch 1911. (Imp. 4to, tables 15. 22s. net.)

[6] *Rhino- und Laryngologische Wirke für praktische Aerzte.* 2 Auf. By Dr. Johann Fein. Berlin and Vienna: Urban and Schwarzenberg. (Demy 8vo, pp. 208; plates 7; figs. 42. M. 6.)

GALL STONES.

THE chapter in Professor ALBU'S encyclopaedia on the present position of the pathology and treatment of gall stones[7] is by Dr. LUDWIG ARNSPERGER, Privatdozent at Heidelberg. It is a good summary, without any pretension to add anything new. He accepts the conclusion expressed by Aschoff and Bacmeister in their very important monograph on cholelithiasis and the pathogenesis of gall stones, reviewed on May 21st, 1910, p. 1237. These observers seem to have proved that Naunyn was wrong in contending that inflammation of the bile passages or gall bladder is essential to the precipitation of cholesterin. They showed that there are two kinds of stones, one composed of pure cholesterin around a nucleus of pigment, displaying on section a structure of radiating rods. Such a stone is to be found in non-infected gall bladders, arises independently of inflammation, and is generally solitary. On the other hand, stones caused by inflammation and secondary to infection show a laminated structure and are composed of cholesterin, lime salts, and pigment mixed together. A pure cholesterin stone may, however, set up inflammation and be enclosed in a layer of laminated deposit. Dr. Arnsperger accepts these conclusions. Every one knows of the frequency with which gall stones are found after death; they are said to be present in 10 per cent., though in 95 per cent. of this tenth there have been no clinical symptoms during life. They become much more common as age advances, and over 60 years of age 50 per cent. of all women are said to have gall stones. The increased frequency in women is very remarkable; according to statistics of the Heidelberg clinic gall stones were found in 46 males and 346 females; they are much more common in women who have borne children. The common belief that gall stones give rise to cancer of the bile passages is due to the frequency of the association, but the author follows Aschoff and Bacmeister in doubting this relation and believing that carcinoma frequently develops from a congenital adenoma of the gall bladder. In the matter of treatment Dr. Arnsperger has nothing novel to suggest, and while he mentions the various well-known measures, he says little to guide us in our choice. With regard to surgical operation, although he says that at Heidelberg recurrence has been very rare after cholecystotomy, he thinks extirpation of the gall bladder is the better operation.

MEDICAL ENTOMOLOGY.

OF the classes and orders, of the genera and myriad species, of insects, to write a full and comprehensive account would be a superhuman task. To deal even with the comparatively small number which directly or indirectly affect the well-being of man is in itself no light labour, and Lieutenant-Colonel ALCOCK, in his *Entomology for Medical Officers*,[8] has attempted to cover the whole realm, not only of *Insecta* proper, but also of *Arachnida* and *Crustacea*. His book is a guide, and a very good and reliable one, but

[7] *Sammlung zwangloser Abhandlungen aus dem Gebiete der Verdauungs- und Stoffwechsel-Krankheiten.* Herausgegeben von Professor Dr. A. Albu in Berlin. Band III, Heft 3. *Der Gegenwaertige Stand der Pathologie und Therapie der Gallensteinkrankheit.* Von Dr. Ludwig Arnsperger. Halle a.S.: Carl Marhold. 1911. (Med. 8vo, pp. 79. M. 2.)

[8] *Entomology for Medical Officers.* By A. Alcock, C.I.E., M.B., LL.D., F.R.S. London: Gurney and Jackson. 1911. (Med. 8vo. pp. 367; figs. 136. Price 9s. net.)

its small compass prohibits any full treatment. The chapter on fleas is a case in point. Only eleven pages can be afforded for this important group, carriers as they are of bacterial, protozoal, and helminthic infections. Only the generic character of these forms can be mentioned, and these only briefly; of the specific characters barely a mention in a few cases can be given. The same criticism might be applied to some other groups, although in certain cases the description is remarkably full. What Dr. Alcock would have needed would have been half a dozen or even a dozen volumes of a size similar to his present work. Such an extended work would be extremely useful to those who have to deal with medical entomology. Dr. Alcock's volume will serve as a reference guide to a host of other works, far exceeding a dozen in number in any particular case, all of which must be turned up by the conscientious worker, and many of which are inaccessible to the worker in the tropics. This criticism applies not particularly to Dr. Alcock's work, but to all works purporting to give an account of the animal parasites of man. In most cases they fail, owing to their small scale, to give the isolated worker in the tropics an adequate and up-to-date account of the subjects treated.

It is, however, easier to criticize this defect in current medical literature than to suggest a practical remedy. There are serious commercial considerations to be taken into account as well as difficulties of transport in undeveloped countries. Possibly a solution might be found by the way of the thin tough modern paper favoured by the printers of the Universities of Oxford and Cambridge if the school in which Dr. Alcock is a distinguished teacher could obtain a special subsidy from the Colonial and India Offices. Such introductory works as his will act as a stimulus to scientifically minded workers, and may help to create a demand for the larger work they need. For such a purpose the value of the book depends not only on the mode in which it treats the subject, but also, to a greater extent, on the references to literature dealing with the subject. As Dr. Alcock correctly remarks, the work of Manson and Ross has necessitated an acquaintance with medical entomology, and, we may add, with medical protozoology and helminthology as well. But, at the same time, it must not be forgotten that the same work has, during the course of twenty years, called forth an enormous mass of literature, both directly and indirectly concerned with it. Dr. Alcock's book, as we have already remarked, is worthy of the highest commendation so far as it goes; its inadequacy to accomplish all that is desirable can have been apparent to none more than to its accomplished author.

THE MILK SUPPLY.

THE safeguarding of the milk supply is and has been for some time a matter of great public concern, and if for no other reason Dr. SAVAGE'S *Milk and the Public Health*[9] will be eagerly welcomed by public health authorities. Constituting as it does one of the most important individual articles of human food, and intimately connected as it is with the spread of tuberculosis and other infectious diseases, it is not surprising that an enormous number of intricate scientific and administrative problems have grown up around milk and its supply, and that those have found partial expression in an ever-increasing mass of legislation. Dr. Savage's work is one of the first to deal in a comprehensive fashion with these all-too-numerous problems. The various matters have in most instances furnished the subject of extensive official reports, and have been summarized more or less adequately in general works on public health and food inspection; but it has seemed to the author—an opinion with which most will agree—that the subject warranted a much fuller general treatment. Now that we have this in the shape of Dr. Savage's volume the result may at first sight appear not a little disappointing. Such a feeling will be engendered chiefly for two reasons—first, that, in spite of the enormous amount of work and anxious thought which has been expended, many of the questions involved remain almost *in statu quo*, and, secondly, that no new ideas or suggestions of prime importance are put forward, Dr. Savage having confined himself, except in certain instances, to a somewhat non-committal treatment. These matters of disappointment, however, are to be laid to the blame of the subject, not of the book. For the most part the latter justifies, and in some cases exceeds, expectation. The general chemical and bacteriological facts relating to milk are reviewed in the routine fashion, albeit in considerable detail. Although, as might have been expected, Dr. Savage shows a thorough acquaintance with this part of his subject, yet he has not avoided a few slips. For example, it is unnecessary to point out the obvious inconsistency on p. 7, par. 3, in regard to the fat in cow's milk. Again, he gives a confused impression as to whether he regards *B. acidi lactici* (Hueppe) and *B. lactis acidi* (Leichmann) as one and the same organism. One or two other instances might be pointed out, but they are so essentially trivial as not to merit mention. Some of the best chapters are those on milk in relation to the infectious diseases, that on child mortality being particularly welcome. Special mention should be made of the addendum on milk-borne sore throat outbreaks. Such epidemics, especially of a mild character, are not always thoroughly investigated by public health authorities; but, as Dr. Savage definitely indicates, they undoubtedly owe their origin in not a few instances to the milk supply. Details of twenty of these outbreaks are set forth at some length, and they will certainly do much to direct attention to this matter. Part III, which deals with the administrative control of the milk supply, affords, as might be expected, the most interesting reading. As to what we want, Dr. Savage, like most other authorities, is in no manner of doubt; how to get it remains a hard question, tempered by his personal experience. The matter of the control of milch cows, for instance, especially of tuberculous cows, has a multitude of irritatingly sharp points. The tardiness in the diagnosis of tubercle bacilli in milk has been and still is an obstacle in the way of administrative procedure. The segregation of infected animals is another serious problem for which Dr. Savage sees little hope of solution in this country for the present. His chapter on the existing conditions of the milk supply and suggested reforms are well written and particularly well illustrated, while in another part of the book he has selected some of the more feasible reforms advocated and practised in other countries. In conclusion, it may be noted that Appendix VI contains a very hopeful sign of the times in the shape of the "Sanitary Rules, etc." enforced by Messrs. Welford and Sons at their farms and dairies.

[9] *Milk and the Public Health.* By W. G. Savage, B.Sc., M.D., D.P.H., County Medical Officer of Health, Somerset. London: Macmillan and Co., Limited. 1912. (Medium 8vo, pp. 469, 38 figures, price 10s. net.)

GUY'S HOSPITAL REPORTS.

THE sixty-fifth volume of the *Guy's Hospital Reports*,[10] like its immediate predecessor, includes a good article on the surgery of the ileo-caecal region. Following Mr. Nathan Mutch's monograph on the treatment of appendicitis, based on over 500 cases, we find in the present volume a communication by Dr. Herbert French, Mr. R. P. Rowlands, and Mr. E. P. Poulton, on tuberculous stricture of the ileo-caecal valve, with a successful excision of the caecum and ascending colon. It includes instructive skiagrams. Year by year we witness wonderful advances in intestinal surgery, based, it can hardly be doubted, on the great frequency of operations on the appendix during the past twenty years. Experience of the surgical anatomy of the caecum and its valvular communication with the small intestine was gained as surgeons grew bolder in tackling complicated cases of appendicular disease. Mr. Philip Turner directs attention to the surgery of an intestinal anomaly in his three cases of persistent Meckel's diverticulum. An operation on a man aged 22 proved perfectly successful, as did another on a female child aged 3, while in the third case, a female child not quite 2 years of age, surgery came too late to save life. Mr. L. Bromley contributes an important article on the operative treatment of exophthalmic goître which deserves to be read in association with Dr. W. Hale White's paper on the outlook of sufferers from exophthalmic goître, which, reprinted from a recent number of the *Quarterly Journal of Medicine*, heads the present volume. Dr. Bellingham Smith and Mr. W. Wilson have contributed an article occupying over sixty pages on the administration of radium and its derivatives

[10] *Guy's Hospital Reports.* Edited by F. J. Steward, M.S., and Herbert French, M.D. Vol. lxv, being vol. 1 of the third series. London: J. and A. Churchill. 1911. (Med. 8vo, pp. 452.)

with reference to their possible application to cancer. The series of experiments and observations on mouse cancer deserve close study. The writers do not find that radium, whether employed externally or internally, has anything like a permanent curative influence on cancer. This volume also contains some good papers on medical subjects, among the most important of which we may distinguish Dr. H. L. Attwater's pontine haemorrhages, a review of nearly seventy cases under observation at Guy's Hospital during the past thirty-six years.

TOBACCO AND NERVOUS DISEASE.

THE extent to which the use or abuse of tobacco is responsible for disorder of the nervous system has been much disputed. At the present time the evil effects of excessive smoking are being more fully recognized than they were a few years ago. Professor VON FRANKL-HOCHWART[11] has published a pamphlet in which he summarizes his own observations on the nervous disorders of tobacco smokers, or rather of cigar and cigarrette smokers, for he has had little experience of what he calls the Anglo-American method of smoking cigarette tobacco in short pipes. The patients were mostly from his own private practice; 570 out of 800 of them smoked, and of the 570, 245 smoked cigars, 325 cigarettes. He divides smokers into four classes—light, moderate, heavy, and excessive smokers; he estimates that 15 per cent. of smokers are heavy smokers, and that 13 per cent. are excessive smokers. The nervous signs and symptoms of tobacco poisoning he describes in three chapters, according as they are cerebral, spinal-peripheral, or affect the internal organs. A fourth chapter discusses the relation of nicotinism to other disorders and intoxications; it is interesting to note that 41 per cent. of 202 patients with probably true nervous syphilis were heavy or excessive smokers, as compared with the normal, 19 per cent. of heavy or excessive smokers found among 800 persons; and similarly, 34 per cent. of 583 men with tabes or general paralysis were heavy or excessive smokers. The author himself has never smoked; he generally contents himself, however, with advising moderation in smoking rather than abstinence, and in the case of alcohol he advises temperate use rather than teetotalism. Details of 34 cases with nervous symptoms due to tobacco, mainly observed by himself, are given in an appendix, with about 100 references to the literature. The author writes without any *parti pris*, and his book rather opens one's eyes to the multiplicity of the symptoms that may be set down to over-smoking; it may be warmly commended to the specialist and to the general practitioner alike.

The author of *The Tobacco Habit*[12] is more comprehensive, for he traces business blunders, national hebetude, domestic infelicity, gambling, drinking, acute homicidal mania, delirium tremens, chronic insanity, sterility and other ills to tobacco smoking; from an analysis of the number of children born to 38 non-smokers and 57 smokers he draws the conclusion that the nation is not only losing its male offspring, but is on the high road to extinction.

NOTES ON BOOKS.

Evans's Analytical Notes for 1911[13] consists of selections from the records of work done during the year in the laboratories of Messrs. Evans, Sons, Lescher, and Webb, Limited, in testing samples of crude drugs and manufactured products before accepting them for use in medicine. Out of the 1,700 samples referred to, over 200 failed to come up to the requisite standard. This is, of course, chiefly due to variations in drugs as collected—for example, differences in alkaloidal strength of belladonna root, etc.; such variations may be caused by differences in the weather of different years, and similar natural circumstances. In some of the cases recorded manufactured products are dealt with, and grave deficiencies are occasionally revealed. Such accumulations of data as are here given are very useful to those engaged in carrying out such work, and give evidence of great care in the selection of drugs for use and sale.

In an address[14] delivered before a meeting of the Church of England Temperance Society at Devizes, Dr. MACKAY of that town recognizes that a cool draught of beer appeals to the thirsty man, and the bouquet of matured wine to the educated palate, and concludes that those who use alcoholic beverages "to relieve natural thirst or as a substitute for water at meals, or merely for the satisfaction of the palate" are not those with whom a temperance society is concerned. Although he accepts Dr. Archdall Reid's view that the alcoholic question will settle itself by elimination of the unfit, if those who want alcohol are allowed to have it in plenty, he does not undervalue the effects of education, good cookery, and healthy dwellings in helping to check intemperance. Von Bibra estimated that coffee is used by two million people, Paraguay tea by ten million, coca by as many, chicory by forty million, cacao (as chocolate or in some other form) by fifty million, hashish by 300 million, opium by 400 million, and China tea by 500 million; whilst all known nations use tobacco, either for smoking, chewing or snuffing. In fact, no considerable tract of the earth's surface is without some special indigenous plant used by the natives, either medicinally or in everyday life. The problem that confronts the world is to restrict the use of these toxic substances within harmless limits. Dr. Mackay's pamphlet will help to do this; whilst the rejoinder he makes to a pro-alcohol critic of his address is very much to the point. Dr. Mackay refers to the lessened consumption of alcohol in hospitals. At the Salisbury County Hospital, for example, in 1865 the milk bill was £94, that for alcoholic stimulants £302. Thirty years later (in 1896) the figures were reversed, milk costing £335 and stimulants only £95. The difference between present-day practice in the prescription of alcohol and that which obtained after Dr. Todd's advocacy of stimulants is doubtless very great. Though subsequent experience has modified their theories and practice as to alcohol, our obligations to Dr. Todd and his school, for demonstrating the futility of wholesale bleeding, leeching, and cupping, remain. The wonder is that in his short life Dr. Todd effected so marvellous a revolution in medical practice. He died at the age of 51 from haematemesis secondary to cirrhosis of the liver—apparently an example of a doctor who followed his own prescriptions.

Bibby's Book on Milk[15] is, if nothing else, good value for the money. That it is more than that, however, may be readily admitted. It is a serious, and, so far as it goes, highly successful attempt to collect the material facts and the opinions of the most eminent authorities with regard to the production, handling, and use of milk. Seven sections are arranged for, and the present one deals with bovine tuberculosis. It is chiefly the work of Mr. John Hanley, the laboratory manager of Messrs. J. Bibby and Sons, and it can certainly be affirmed that it redounds greatly to his credit. Such a work can hardly fail to be of great service and utility if it finds its way into the hands of farmers and milk producers, for whom it is intended.

The long arm of coincidence is perhaps unduly strained at times in unravelling the mystery of *The Squatter's Bairn*,[16] but those of Mr. E. J. MATHER'S readers who are prepared not to cavil at a few improbabilities will find plenty to amuse and interest them in this story of a South Australian sheep farm. The little English girl who is rescued from the tribe of aboriginals amongst whom she has been brought up, lives to marry her rescuer and to be restored to the arms of her distinguished father, though not before a series of mild adventures has threatened her happiness. The story is rather too long, but it contains some pretty descriptions of Australian scenery; and Mr. Mather has added an appendix full of useful information for the benefit of intending settlers or tourists. A large number of really charming photographs are included in the volume, which also boasts a coloured frontispiece by Mr. Harold Copping.

[11] *Die nervosen Erkrankungen der Tabakraucher.* Von Professor Dr. L. von Frankl-Hochwart. Vienna and Leipzig: A. Holder. 1912. (Roy. 8vo, pp. 91, Abb. 1, M. 2.80.)

[12] *The Tobacco Habit, its History and Pathology.* By Herbert H. Tidswell, M.R.C.S., L.R.C.P. London: J. and A. Churchill. 1911. (Crown 8vo, pp. 246, 3s. 6d. net.)

[13] *Evans's Analytical Notes for 1911.* From the laboratories of Evans, Sons, Lescher, and Webb, Limited, Liverpool, London, and New York. February, 1912. Gratis on application.

[14] *The Scientific Aspect of the Temperance Question.* Published at the *Advertiser* Printing Works, Devizes. 1d.

[15] *Bibby's Book on Milk.* Section IV: *Bovine Tuberculosis: Causes, Cure, and Eradication.* Liverpool: J. Bibby and Sons. 1912. (Med. 8vo, pp. 475; figs. 22; plates 23. Price 10s. net.)

[16] *The Squatter's Bairn.* By E. J. Mather, with a coloured frontispiece by Harold Copping. London: Rebman, Ltd. 1912. (Demy 8vo, pp. 352, illustrations 25, 6s.)

MEDICAL AND SURGICAL APPLIANCES.

A New Design of Clinical Thermometer.

DR. T. WILSON PARRY (Crouch End Hill, N.) writes: For many reasons the ordinary straight clinical thermometer now in use is not an ideal instrument. The general practitioner, to his sorrow, is constantly reminded of this. He inserts, with punctilious care, the glass bulb of the tube under the patient's tongue. A few seconds later, experience having taught him that in certain cases it will not long remain there, he takes a peep to see whether the bulb still lies in the position in which it was placed. Instead, however, he finds it lying complacently on the top of the tongue, the patient being blissfully unaware that anything is wrong. Even if placed in the proper position under the tongue of an expert for a minute, or half-minute, as the case may be, the registration of

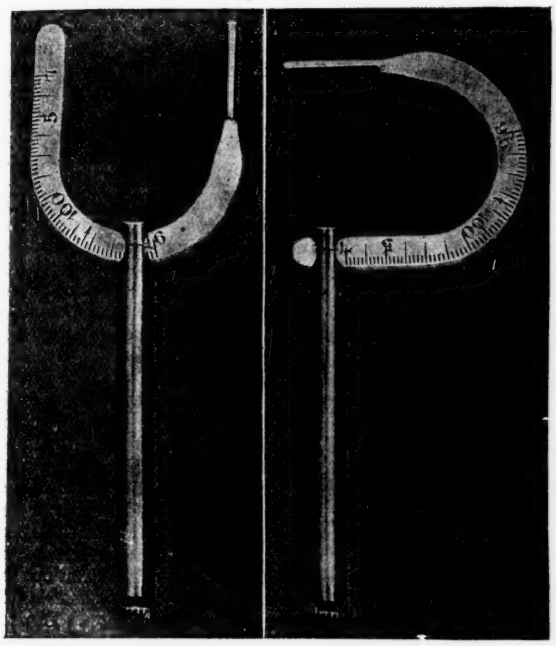


Fig. 1. Fig. 2.

temperature is not scientifically accurate. In the process of graduating a clinical thermometer the whole instrument is immersed in water of known temperature while the marks to signify the different degrees are being made on the glass tube. It follows logically, therefore, that the whole thermometer ought to lie under the patient's tongue, in order to ascertain the temperature in that part. The thermometer I now wish to place before the profession is an ordinary small one which has been carefully curved to lie on the floor of the mouth, under the tongue, without the possibility of rising above it (Fig. 1). For convenience sake, there is a small shaft, to serve as a handle, with a hole at one end, through which the glass tube passes, and a screw at the other, which can be adjusted to fix the thermometer at any required angle. To shake the mercury down, the handle is moved for a moment to the distal end, the screw readjusted to hold it in this new position (Fig. 2), and a few vigorous jerks will bring about the desired result.

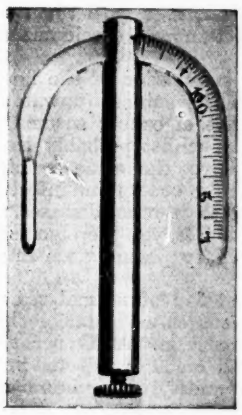


Fig. 3.

The practical advantages of this new thermometer are:

1. That, on account of its shape, it can be easily placed and retained sublingually in the best possible position for obtaining an accurate temperature.

2. That, on account of its total submersion under the tongue, it gives a more scientifically accurate registration than the ordinary straight thermometer.

3. That the increased leverage obtained by fixing the handle at the distal end of the tube enables the mercury to be the more readily shaken down.

4. The risks of breakage of the thermometer by the patient's teeth are entirely obviated.

The thermometer has been made for me by Mr. Francis Cooper, Tottenham Lane, Hornsey, from whom both it and all information respecting it can be obtained.

THE INTERNATIONAL ASSOCIATION OF THE MEDICAL PRESS.

ON the day previous to the meeting at Rome of the International Congress on Tuberculosis the Committee representing the International Association of the Medical Press assembled at the Castel Sant Angelo. Two sittings were held. The first was devoted mainly to the lengthy report presented by the General Secretary, Dr. R. Blondel. It was at Rome that the idea of forming the association arose, as a result of the great difficulties encountered by the representatives of the press who attended the International Medical Congress which met there in 1894. The Congress on Tuberculosis which has just terminated its labours illustrates the benefits resulting from the organization of the medical press. Before this congress had begun, Dr. Blondel was able to explain that arrangements had been made to issue to the press a daily printed summary of the proceeding in each section.

The report of the proceedings of the International Medical Press Association, of which a draft was submitted at Lisbon in 1906, had never been published because among other reasons they had waited for a reconciliation to take place in Italy, the Italian Medical Press Association having split into rival organizations. A reconciliation had now been happily effected, and it was proposed to proceed with the publication in question. A lengthy discussion followed as to how the affiliated journals should be mentioned in the report of proceedings.

A good deal was said about the permanent committee of the Medical Congress which has its head quarters at The Hague, and it was accused by the French and Italian representatives of interfering too much with the methods of proceeding each country thought fit to adopt. Dr. DEJACE, Vice-President, who presided, in the absence of the President, Dr. Lucas-Championnière, detained at Florence by illness, pointed out that this discussion showed how nations differed and that this rendered internationalism difficult. In Belgium the instructions from The Hague had been well received and carried out successfully.

An important debate followed on the reporting of the extemporary discussions that should be encouraged at congresses. Papers and reports could be read at home; the real interest arose when the author of a paper was brought face to face with those who differed from him. More translators and more shorthand writers were needed to render such debates fruitful.

In the afternoon the decision to publish a report of proceedings gave rise to the question of ways and means. So far the Association had incurred very little expense. At Budapest its printing was included in that of the Medical Congress, and it did not pay anything, but it cost £6 8s. in postage to distribute what was then issued. Therefore it will now be necessary for every affiliated National Medical Association to bear its allotted share of the expenses of the international organization. There then followed a long discussion on medical terminology, which is becoming more and more complex. For new words it was urged that Latin was the best language, and in any case a mixture of Latin and Greek should not be sanctioned. Where it was a question of a series of symptoms the name of the author or discoverer might be the shortest way of conveying the desired meaning. For surgical operations a word should be selected that described the operation or the part on which the operation was to be performed. In regard to words now current, the Latin term should be added to the national or the popular term. It would be easier to assimilate by adding the Latin than by attempting to break down established customs.

The last business treated consisted of a special vote in regard to the American medical press. It was decided that should Mr. Adolphe Smith attend the International Congress of Hygiene which meets in Washington next

September, he should be empowered to convoke a meeting of representatives of the American medical press and invite them to join the International Association of the Medical Press.

Professor Agusto Tamburini, on behalf of the Italian medical press, entertained the Committee to a sumptuous lunch at the Hôtel de Russie, and an evening reception was given by Dr. Ascoli at the offices of *Il Policlinico*. Altogether the members of the press were well pleased with what their Italian colleagues had done to facilitate their work and with the kindness and courtesy shown them on all sides.

THE SEROLOGICAL DIAGNOSIS OF CANCER.

III.—ISOHAEMOLYSINS.

The property of the serum in certain diseases occasionally to produce haemolysis of normal red blood corpuscles has received considerable attention from American observers, with respect to cancer chiefly. The original stimulus to such observations was given by Richard Weil,[1] who in 1907 showed that the serum of dogs the subject of the so-called lymphosarcoma—an infectious and transplantable tumour—haemolysed the red blood corpuscles of normal, but not of sarcomatous, dogs. Proceeding to the study of human disease, he found that 46.5 per cent. of serums of early malignant cases haemolysed normal corpuscles (isohaemolysis); in 71 per cent. of these cases the patients' own corpuscles were resistant; whilst in late cases isolysins occurred in 71.5 per cent., with an absence of autohaemolysins in 80 per cent. of the latter. In other diseases he found 21.5 per cent. of isolysins; but in these cases autohaemolysins were more frequent, and in this group there were several cases of tuberculosis.

It is an interesting fact that though cancer serum is haemolytic to the corpuscles of a normal individual, yet the patient's own corpuscles are not so acted upon in the great majority of cases, and it has been supposed that in the case of cancer the erythrocytes have become immune to the particular substance in the serum which is capable of dissolving fresh corpuscles. This explanation is not in conformity with the fact that the corpuscles of another cancer patient are not so protected.

Of the nature of the haemolytic substance very little is known; from the fact that it is destroyed by heating the serum to 50° C. and that its action is restored by the addition of fresh normal serum it may be concluded that it belongs to the class of immune bodies, and it is possible that it may be the secondary expression of a primary reaction body to the cancer "toxin." Of more practical interest from the point of view of diagnosis is the fact that isolysins are found by no means infrequently in tuberculosis. Crile holds that in that disease there is here a reverse reaction to that in cancer—the serum of normal individuals lyses the corpuscles of the tuberculous, an observation which so far cannot be said to be established. Ascoli has pointed out the occasional presence, in small quantities it is true, of isohaemolysins in normal serums, and this has to be borne in mind in estimating the results of several observers, who, though all employing practically identical technique, have neglected to appraise the degree of haemolysis in reckoning positive reactions.

The method employed is simple. A few cubic centimetres of blood are withdrawn from the median basilic vein, and, after clotting, the serum is separated. Of this 0.5 to 1 c.cm. is added to washed red blood corpuscles of a normal individual and incubated for two hours at 37° C.; at the end of this time a reading is taken, and again next day after the tubes have been in the ice-chest overnight. Upcott has worked with quantities of serum and corpuscular emulsion so much smaller that venepuncture is not necessary.

The percentage successes of different observers vary considerably. Fischel [2] obtained a haemolytic reaction of the serum in 50 per cent. of all malignant tumours, but he did not consider the reaction specific because he also found it in cases of pernicious anaemia and in tuberculosis. Crile [3] had surprisingly good results. He tested the reaction in 591 cases. In 153 cancer cases 130 were positive (85 per cent.); isolysins were found to be absent in all (37) post-operative cases without recurrence, and present in all (11) with recurrence; none of the benign tumours, of which 55 were examined, reacted positively; 211 normal serums were all negative; haemolysis was obtained in the case of tuberculosis (92 per cent.) and also in pyogenic infections (10 per cent.) Crile says that in the cancer group when the tumour was entirely removed the haemolytic property of the serum was lost in from twelve to twenty-one days after operation.

The high percentage results of Crile, obtained as they were over a large series of cases with a satisfactory number of controls, have not been approached by the figures of other observers. Janeway [4] noticed haemolysis in 4 of 7 early cases and in 8 of 20 late, agreeing closely with the findings of Weil. Butler and Mefford [5] found isolysins in 13 out of 22 cancer serums, in 2 of which autohaemolysins were also present; but they did not regard the phenomenon as of diagnostic value, seeing that they obtained isolysins in 4 of 9 normal individuals, in 3 tuberculous cases, in 2 of 5 cases of pneumonia, in 2 cases of gastric ulcer, and in miscellaneous diseases, such as malaria, pernicious anaemia, post-diphtheritic palsy, salpingitis, and even in pregnancy. Whittemore,[6] too, doubts its value in diagnosis, for, though he noted haemolysis in 36 per cent. of cancers, he also found it in 17 per cent. of normals. Richartz,[7] on the other hand, thinks that in all cases in which tuberculosis can be excluded the reaction is of great diagnostic value, though he admits that it does occasionally occur in other diseases. It was present in 48 per cent. of cancer and in 52 per cent. of tuberculous serums. The haemolytic substance, according to this observer, is not a product of the tumour, but a reaction of the organism to the disintegration of the corpuscles brought about by the toxin of the tumours. Alessandri [8] found haemolysis in 65 per cent. of all cancer cases, while in epithelioma of the skin, in very cachectic malignant cases, in benign growths, sarcomata, and other pathological conditions, the reaction failed. Johnstone and Canning [9] got haemolysis in 45 out of 51 cases of carcinoma, Schleiter [10] 15 times in 20, Ottenberg and Epstein [11] in 28 of 38 cases, Blumgarten [12] in 72 per cent. of all malignant cases, Krida [13] in 75 per cent. of cancers and in 8 per cent. of non-cancerous diseases, Upcott [14] 20 times in 36 malignant cases. Smithies [15] found the reaction in several healthy individuals, as well as in the tuberculous and syphilitic, though, on the other hand, more than half of the malignant cases gave a positive reaction. Agazzi [16] concludes that the reaction is without importance in the diagnosis of cancer, because he found it to occur in quite healthy men, and it was not wanting in simple tumours, though he agrees as to the relative frequency in cancer and tuberculosis. Weinberg and Mello,[17] by rejecting as negative partial haemolysis, consider that about 30 per cent. of cancers give haemolytic reactions, though it is much more frequent in tuberculosis. Leitch,[18] whilst admitting that isohaemolysins are found in about half the number of cases of human cancer, met with them only occasionally in the transplanted tumours, carcinoma and sarcoma, of mice.

It has been calculated from a summation of the figures given by the various writers on the subject (upwards of 700 cases) that about 40 per cent. of cancer serums are haemolytic to normal corpuscles, whilst probably three-fourths of tuberculous cases give the same reaction. Though the reaction undoubtedly occurs in infectious diseases not infrequently, as well as in other diseases, and even sometimes in normal individuals, yet the sign is not without importance as a subsidiary phenomenon in the diagnosis of cancer.

Elsberg,[19] by injecting a suspension of normal red corpuscles under the skin of cancerous cases, claims to have obtained a specific cutaneous reaction. A 20 per cent. suspension of washed defibrinated blood is injected under the skin of the forearm, in a quantity of 5 minims, care being taken not to puncture any of the superficial veins. In from three to twelve hours after injection, in the case of a cancerous patient, the area is slightly raised and tender, with a more or less well-defined margin; it measures 2 to 4 cm., and is of a dusky red colour. The changes in the skin reach their maximum in one to two hours, and then the red area begins to fade; eight to twenty-four hours after the injection it has entirely disappeared, or more often a brownish, bluish, or lemon-yellow discoloration persists for a few days. The injection of the fluid

constituents of laked blood produced similar apperances. Elsberg obtained a positive reaction in 100 per cent. of known cancers, and in 3 out of 4 sarcomas, whilst it was absent in all but 3 of 100 controls. In suspected cases where the reaction was positive operation confirmed the diagnosis.

According to Leitch, the appearances are often so equivocal that the reading depends too much on the personal bias, yet he has met with no typical reaction in the test controls. On the other hand, the results in some cases went against the clinical diagnosis, and were confirmed by operation or autopsy.

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MEDICAL SICKNESS, ANNUITY, AND LIFE ASSURANCE FRIENDLY SOCIETY.

THE twenty-ninth annual general meeting of the members of this society was held in the rooms of the Medical Society of London, Chandos Street, W., on May 9th. Dr. DE HAVILLAND HALL, Chairman of the Executive Committee, presided.

Chairman's Address.

The CHAIRMAN said that during the year 210 new proposals had been received; after allowing for deaths, lapsing of membership, and members reaching the age limit, this left a net gain of 115, bringing the total membership up to 3,038. He had always hoped that the membership of the society would have reached 5,000 while he was chairman, and he trusted that the numbers would continue to increase and that in the course of a few years they would number over 5,000. The average age of members was slowly rising; it was now 44 years, as against 43½ years in the previous year. The sickness fund at the beginning of 1911 was £140,623, while at the end of the year it had risen to £149,812. During the year £15,100 had been paid in sickness claims. The premiums received for the sickness fund amounted to £19,412, which was a record. On the whole the sickness experienced showed a slight margin in favour of the society. The number of chronic cases of sickness was gradually growing; in 1911 there were 42 as against 36 in the previous year. While there had been a diminution in the number of accidents there had been rather more sickness. During the year a change had been made in the system of bonuses; hitherto they had only been paid to members on reaching 65 years of age, and it had been thought that this was rather unfair to the representatives of those members who died before attaining the age limit. During the past year £724 had been paid to those reaching 65, and £55 to the representatives of members who had died before that age. There would probably be a large increase on the last item, for already in the present year, 1912, the sum of £123 had been paid to the representatives of deceased members. It was a great satisfaction to him to know that the society's contribution to Epsom College had been increased from 20 to 100 guineas, and he was sure it would be a great boon to the widows and children, and even to members themselves in their old age. The society also subscribed 100 guineas a year to the British Medical Benevolent Fund; this also had been of use to members, and would be of increasing usefulness in the future. As in the past the society owed a great debt of gratitude to the medical journals, especially the BRITISH MEDICAL JOURNAL, the *Lancet*, and the *Medical Press and Circular*, for the very kind way in which they had always brought the advantages of the society before the profession. Referring to his retirement from the society, Dr. Hall said that he had worked for it upwards of twenty-five years; for seven of these he acted as medical examiner, and for nearly eighteen years he had been chairman. It had been to him a labour of love to watch the gradual development of the society; but a chairman would not be of much use without a good committee behind him to back him up, and he thought the Medical Sickness Society had been most fortunate in its committees. As an instance of the harmonious working of the society, he mentioned the fact that since he had been chairman it had not been found necessary to refer any case to the arbitrators. The report of the committee testified to the excellent work done by Mr. Addiscott, their present secretary, and the assistant secretary, Mr. Sutton. The chairman concluded his address by wishing the society Godspeed in the future, and said that he would always be glad to do anything in his power to assist the society.

Dr. VINRACE referred to the matter of the election of the committee, and suggested that some system should be introduced by which all the members of the society should have an opportunity of electing the committee. He also thought that, instead of continually adding to the reserve fund, some alteration should be made in the tables and rules by which members could remain in benefit up to the end of their lives instead of ceasing at 65.

Dr. DUTTON disagreed with the manner of the distribution of bonus.

It was proposed by Dr. BURNHILL, seconded by Dr. VINRACE, and resolved:

> That the method of the re-election of officers and the question of the extension of benefits beyond 65 be referred to the committee for consideration.

The CHAIRMAN then moved:

> That the report of the committee and the audited accounts for the twelve months ending December 30th, 1911, be received and adopted.

The motion on being put to the meeting was carried with one dissentient.

Election of President.

On the motion of Dr. PALMER, seconded by Dr. BRINDLEY JAMES, Dr. de Havilland Hall was elected President, in order that the society might retain his unique experience and have the advantage of his advice on matters in general.

Election of Officers.

The officers and committee on the printed list before the meeting were elected *en bloc*, Dr. F. J. Allan being appointed Chairman of the Executive Committee.

Vote of Thanks.

A vote of thanks to the Chairman for presiding at the meeting was proposed by Dr. DENNIS VINRACE and carried, and the CHAIRMAN'S acknowledgement brought the proceedings to a close.

JAPAN IN 1909.

THE annual report recently issued of the Central Sanitary Bureau for the Home Department of Japan for 1909, the 42nd year of Meiji, is published under the direction of Ichita Kohashi, the Director of the Central Sanitary Bureau of Japan. It is printed in English, but the statistical tables are given both in English and Japanese in parallel columns at the end of the book, where is printed in Japanese what is presumably the report.

Population.

The population of Japan is investigated once in every five years; the last occasion was in 1908. At the end of 1909 it was estimated at 26,254,778 males and 25,486,787 females, a total of 51,741,565. The total number of houses at the end of 1908 was 9,250,234; this gives an average of 5.59 persons for each house. The proportion of males to females at the end of 1908 is 103.01 males to 100 females. Generally speaking, in those flourishing regions where large cities are found, the number of males seems to exceed that of females. A comparison is made in the report with England, where the ratio is 93.63 males to 100 females; France, 96.84 males to 100 females; Germany, 96.88 males to 100 females. The cities contain 11.52 per cent. of the population, while the country has 88.48 per cent.

Births.

The total number of normal births during the year was 1,662,815, which works out at 33.5 births per 1,000

inhabitants, the proportion of males being 104.9 to 100 females. The number of stillbirths is given—162,676, a rate of 3.3 per 1,000 inhabitants, and 9.8 stillbirths per 100 births.

Deaths.

The number of deaths was 1,029,447, or 20.9 per 1,000 inhabitants. Infantile mortality in Japan, like elsewhere, is high—153 per 1,000 normal births. The principal causes of death during the year were: Pulmonary phthisis 74.4 per 1,000 deaths, meningitis 68.5 per 1,000 deaths, pneumonia 64.4 per 1,000 deaths.

Infectious Diseases.

In the autumn of 1909 cholera was imported into three prefectures; there was a total of 328 cases with 221 deaths. Dysentery seems to have been very prevalent; no fewer than 28,006 cases occurred, with a death-rate of 24.41 per cent. Typhoid is another disease of frequent occurrence; 25,106 cases were reported, with 5,470 deaths. Of diphtheria there were 18,102 cases, with 5,121 deaths.

Vaccination.

Vaccination is compulsory in Japan, and is rigidly enforced. During 1909 the total number of persons who were regularly vacinated was 3,006,267, which is 6.14 per cent. of the entire population; about half the number were vaccinated for the first time, and the other half for the second and third times; 88.74 per cent. of the total number of the vaccinations were successful in the first vaccinations, and 31.64 per cent. in the second and third vaccinations.

Poisoning.

The total number of persons poisoned in 1909 was 1,963, with 420 deaths; this is an increase over the previous year. The chief causes were ptomaine and fungi. Generally speaking, cases of ptomaine poisoning are numerous in regions far away from the sea, and most of them are attributed to the eating of putrefied fish.

Enthetic Diseases.

A Contagious Diseases Act is in force in Japan; 2,784,258 examinations were made, and 2.61 per cent. of those examined were found to be affected.

Medical Practitioners.

The number of medical practitioners licensed during 1909 was 1,028, which was 74 less than 1908. In all there were 36,673 physicians (including 60 foreigners) in practice. The average number of inhabitants to one medical practitioner was 1,347.

It is interesting to note that under the "Law of Physicians" the following rules are enforced:

The physician shall keep the patient's book, and such patient's book shall be preserved for ten years.

No physician is permitted to make any advertisement, whatever may be its means, as to his art, method of treatment, or personal record, except as to his degrees and titles and the name of his speciality.

With reference to the giving of prescriptions to patients, there is the following rule:

In case the physician gives a prescription to a patient whom he has medically examined, he shall state therein the name and age of the patient, the name, amount, use, and dose of the medicine, and the date of issuing such prescription, and sign his name or affix his seal.

The penalty for infringement of any of these rules is a fine not exceeding twenty-five yen.

Bacteriological Institute.

A large amount of work was done at this institute during the year, and thirty-seven different reports were published, including "A Study of the Rat-Flea Native to Japan," "A Study on Beri-Beri," and a "Report on Plague." Vaccine lymph is prepared and distributed at the institute, and the various kinds of serums are prepared and sold. The bottles of diphtheria serum sold amounted to 106,427; tuberculin, 1,006; typhoid fever serum, 2,872; plague serum, 2,427.

Sixty-five students completed a course of study at the institute and obtained certificates.

Statistics.

Appended to the report is an elaborate series of statistical tables covering 140 pages. These tables, 85 in all, deal with every conceivable subject connected with public health, and must have entailed an enormous expenditure of time and trouble in their preparation. The report is, from a statistical point of view, well worthy of perusal, and affords an indication as to how public health matters are dealt with in this go-ahead country.

PARLIAMENTARY COMMITTEE ON PROPRIETARY MEDICINES.

THE Select Committee appointed by the House of Commons to inquire into the law and advertisement of proprietary articles met for the first time to receive evidence at the House of Commons on May 9th. Sir Henry Norman, the Chairman, presided, and evidence was received as to the existing law with regard to the question and the relations to it of the various Government departments.

THE BOARD OF INLAND REVENUE.

Sir Nathaniel Highmore, Solicitor to H.M. Customs and Excise, the first witness, gave information regarding the historical development of the law relating to the sale of patent medicines and proprietary articles, and the amounts of the yields to the revenue from these sources. He said that the duties in respect of medicines were first imposed in 1783 by the Act of 23 George III, chap. 62. In introducing the Budget of that year, Lord John Cavendish stated that quack medicines, in his opinion, were very proper objects of taxation. He proposed that in certain cases there should be a licence, and that a duty of 8 per cent. should be charged. This he believed would produce a revenue of £15,000—an important sum at that time. The duties were imposed upon persons not possessing certain qualifications—for example, those who had not served a regular apprenticeship to a surgeon or apothecary. They were required to take out an annual licence, and for the articles they sold under the licence there were three rates of duty—namely, 3d. when the price of the article did not exceed 2s. 6d.; 6d. on articles from 2s. 6d. to 5s.; and 1s. from 5s. upwards. A further Act bearing on the subject of proprietary articles was that of 25 George III, chap. 79. These Acts were repealed by a measure passed in 1802, which was the foundation of the present law in reference to medicines. The three main Acts affecting the question were passed in 1802, 1804, and 1812. These imposed two duties, one upon the licence and one upon the medicines sold, and this principle had been maintained throughout by the Legislature. Taking the licence duty first, there were three rates imposed, and these remained in force until 1875. They were—in London and Edinburgh, £2; in Manchester, Birmingham, and Sheffield, 10s.; and in other parts of Great Britain, 5s. All these duties up to that time were stamp duties. In 1864 the duty on the licence was made a duty of excise, and in 1875 the three different grades of duties for different parts of the country were repealed, and a uniform duty of 5s. was imposed upon the licence; this duty remained to the present day. There was no exemption from the obligation to obtain a licence for the sale of proprietary articles except one granted in the case of mineral waters. The licence commenced on September 1st in each year, and the penalty for selling without a licence was £20, imposed by the Act of 1802.

The duty on the medicine itself was charged by an Act of 44 George III, chap. 98. An Act of 1812 contained a very long list—nearly twelve columns—of articles specifically charged, but he did not think that many of them were known at the present day. One or two were patented articles, and some had peculiar names. Not only medicines were included, but articles such as "medicated snuff," "toothache pills," "drops for fits," and so on. Occasionally appliances were mentioned. At the end of the list of names appeared a long statement of what was to be included in the charge of duty, and this read:

And also all other Pills, Powders, Lozenges, Tinctures, Potions, Cordials, Electuaries, Plaisters, Unguents, Salves, Ointments, Drops, Lotions, Oils, Spirits, Medicated Herbs and Waters, chemical and officinal Preparations whatsoever, to be used or applied externally or internally as Medicines or Medicaments, for the Prevention, Cure, or Relief of any Disorder or Complaint incident to or in anywise affecting the Human Body, made, prepared, uttered, vended, or exposed to sale, by any Person or Persons whatsoever,

Or which have at any time heretofore been, now are, or shall hereafter be, by any public Notice or Advertisement, or by any written or printed Papers or Hand-bills, or by any Label or Words written or printed, affixed to or delivered with any Packet, Box, Bottle, Phial, or other Inclosure containing the

same, held out or recommended to the Public by the Makers, Vendors, or Proprietors thereof as Nostrums, or Proprietary Medicines, or as Specifics, or as beneficial to the Prevention, Cure, or Relief of any Distemper, Malady, Ailment, Disorder, or Complaint, incident to or in anywise affecting the Human Body.

The duty on these medicines was charged by the Act of 1804, and varied according to the price of the article, as follows:

Value 1s., 1½d.; exceeding 1s. and not exceeding 2s. 6d., 3d.; exceeding 2s. 6d. and not exceeding 4s., 6d.; exceeding 4s. and not exceeding 10s., 1s.; exceeding 10s. and not exceeding 20s., 2s.; exceeding 20s. and not exceeding 30s., 3s.; exceeding 30s. and not exceeding 50s., 10s.; exceeding 50s., £1. There were eight items in the scale, as compared with three in the original scale. In practice there were six items, the highest of which was 3s., there being no demand for the two items of 10s. and £1.

With regard to exemptions, all medicinal drugs whatsoever, without mixture or composition with any other drug or other ingredient supplied by any surgeon or apothecary, chemist, or druggist who had served a regular apprenticeship, or by any other person licensed to sell any of the medicines chargeable within the statute, were exempt. This was known technically as the exemption of pure drugs. The other exemption applied to what were called "well-known remedies." There was an exemption in favour of these, provided they were sold by a chemist without a recommendation as a remedy by the maker thereof. A further exemption existed in favour of ginger or peppermint lozenges unless they were sold with a recommendation as a remedy. The penalty for infringement was £10.

The witness went on to describe the procedure of the department of Customs and Excise with regard to levying duties, explaining that foreign medicines were dealt with in much the same way as home-manufactured ones. Eau de Cologne was treated under the ordinary customs duty in respect of perfumed spirits, unless it was held out as a medicine beneficial for the cure of an ailment. A preparation for the hair, merely recommended as a hair wash and not for the prevention or cure of any ailment affecting the scalp, would be exempt, but a tooth salve which was claimed to be a cure of toothache would be liable to duty. As to medicated wines and spirits, these were sold by chemists without a wine or spirit licence if they were sufficiently medicated as to ensure that they would not be taken as beverages, but if they were sold with a recommendation as a medicine the stamp duty would attach. Replying to the Chairman, the witness explained that the question whether the wines were sufficiently medicated or not was decided by the Government chemist.

Sir Nathaniel put in a number of specimens of the different forms of stamps used by the Government in respect of proprietary articles, and mentioned that a special form could be obtained by any manufacturer. Considerable use was made of this privilege, as was shown by the fact that the unappropriated 1½d. stamps printed numbered 10 millions; appropriated, 19 millions; unappropriated 3d. stamps, 3 millions; appropriated, 5 millions. As to the yield of the duties, he gave the following figures:

Year ending March 31st, 1912.

Licences issued	43,117
Amount received in respect of above...	£10,781 5s.
Duties on medicines apart from licences	£327,856

The whole of that duty, except a little less than £4,000, was paid in England. The sum of £820 10s. for licences and £2,999 in respect of medicines was paid in Scotland. The witness also put in the following table, based upon a return for 1908 made to the House of Commons:

Number of Stamps sold of Different Denominations.

1½d. stamps...	33,037,202
3d. stamps	7,565,822
6d. stamps	1,002,549
1s. stamps	122,249
2s. stamps	18,445
3s. stamps	11,308
Total	41,757,575

The gross receipts amounted to £335,878 9s. 2½d. The figures given above represented a fair average for some years past. The manufacture of these articles was very much greater in England than in Scotland; there were no figures with regard to Ireland, as the duty did not apply to that country.

Asked by the Chairman as to his view of the law generally, Sir Nathaniel Highmore said he regarded the present law as very much out of date. The exemptions were very wide, and some were entirely obsolete. He regarded it as possible to place on the Statute Book a fairly simple Act of Parliament which would do away with any question of concession and make it clear what was intended to be covered and what exempted. It was a difficult matter to administer Acts of Parliament passed over a century ago.

The Chairman: Do any particular difficulties arise in the administration of the law?

The Witness: Nothing that calls for special mention. We have to consider the terms of the labels and advertisements, and occasionally have to deal with cases where there are attempts to fix labels which are calculated to deceive the public as to whether they are stamps or not. Occasionally imitation labels are sought to be used.

In reply to other questions, the witness said it was the duty of the Commissioners of Customs and Excise to set the law in motion if it was being evaded. The Board had a large staff of Customs and Excise officers.

Sir Philip Magnus asked whether any trader, in obtaining a licence, had to make a declaration as to the composition of the medicines, and the reply was in the negative.

The witness put in an advertisement which, he said, consisted of a statement that a certain article was made according to the formula of Beecham's pills, as published in *Secret Remedies*, issued by the British Medical Association. These people endeavoured to get the advantage of the advertising of Beecham's pills. The question arose as to whether they should be proceeded against by the Board of Customs and Excise. It was felt, however, that it was impossible to say the pills were advertised as a proprietary or secret remedy because they were merely stated to be according to a published formula.

The Chairman: The alleged formula. The analyst is fallible in law.

The witness added that before very long the vendors added a recommendation of their own, and this brought them in conflict with the Board of Customs and Excise. As a matter of fact, they were prosecuted the previous day and fined for selling medicines which they recommended as a remedy, without having a licence.

The Chairman: Is this one of the cases that would lead you to think the law is inadequate?

The Witness: It is.

In reply to Sir Henry Dalziel, the witness said that the question whether the law was strong enough to deal with obvious fraud, and to protect the public as regards the sale of pernicious remedies, did not affect his department, which was concerned merely with the collection of duties.

Mr. Glyn Jones: What is the practice of the Board in regard to the proprietary medicines advertised in technical papers, such as the BRITISH MEDICAL JOURNAL and the *Lancet*? Do the Board regard that class of proprietary medicines as coming within the scope of the Act?

The Witness: I think a preparation recommended in a paragraph in either of those papers will be used probably for dispensing purposes. The Board does not require stamps to be put on them provided they are really used for dispensing.

Mr. Glyn Jones: I am referring to a class of articles held out to be for the prevention or cure of ailments. This is done by travellers who call on medical men, or by means of circulars, or by advertisements in papers circulating amongst medical men. All the grounds of duty are there, but the Board does not enforce the stamp duties.

The Witness: The Board's practice is, if the medicine is received in bulk by a chemist without any label attaching to it, and received solely for the purpose of making up doctors' prescriptions of which it forms an ingredient, and an undertaking is given that it will not be sold except as part of a medicine, not to require payment of duty.

The Chairman: Are these sold in bulk or in small quantities?

The Witness: I think they are generally sold in larger quantities than they would be supplied to the public.

Mr. Haydn Jones asked if it was possible for a person to register any preparation and patent it without making a declaration of contents.

The witness replied that the term "patent medicine" was really a misnomer, although it was so commonly used. There were very few medicines that were patented.

Mr. Haydn Jones: It is open to any one to foist on the public a preparation that is absolutely worthless.

The Witness: We cannot possibly undertake in our department to say what is the value of a preparation.

In reply to Mr. Cawley, the witness said it would be difficult to arrive at the actual amount paid by the people of this country for proprietary articles merely from the amount of the duty, owing to the fact that the graduations of the scale made it impossible to arrive at an exact computation.

Dr. Chapple: Could you give a rate over a series of years to show whether the consumption is increasing or not?

The Witness: It would be difficult, because some years ago certain remedies could not be purchased for less than 2s. 6d., and now they are made up in smaller quantities.

Dr. Lynch: Do you discriminate between drugs having a real medicinal value and those that are pretty well worthless?—No.

Can you say what proportion of patent medicines sold here is manufactured in America?—No, I do not think it would be possible to trace them.

The Chairman: Could you not supply such a list? I am sure the Committee would regard it as important.

The Witness: I will ascertain whether it can be obtained.

In reply to other questions by Dr. Lynch, Sir Nathaniel said that in deciding whether a medicine was "well known" or not, the evidence of certain periodicals was accepted. If the name appeared in the *British Pharmacopoeia*, the Board would regard that as conclusive.

Dr. Lynch: Can a proprietor sufficiently advertise his medicine—boom it, so to speak—and so make it a well-known medicine, thus evading the duty?—There would have to be no proprietary rights attached to it. The fact that he described himself as the proprietor would make the article liable to duty.

As to the Government guarantee, does not the phrase "No Government guarantee" on the stamp tend to convey to the public mind that a Government guarantee of some proprietary articles does exist?—The phrase was used because some proprietors advertised "None genuine unless guaranteed by the Government stamp."

Could it not be made more explicit?—I do not think it could, except by getting rid, perhaps, of the use of the word "patent" in the popular description of chargeable medicines. That word may be taken to imply that the articles were under the protection of letters patent, but the use of the ordinary stamp could not be a guarantee of any sort.

The Chairman: To which Government department should a person apply for information with regard to the sale and advertisement of patent medicines, apart from matters connected with payment of duty?

The Witness: To the Home Office, perhaps, or the Local Government Board. I think both those departments may be concerned.

Does not the fact that you are unable to reply to that question definitely point to an extraordinary position of the law?—One is not always prepared with a definite reply to questions put without any notice that the point to which they relate is likely to arise.

Is there anything in law to prevent any person making any mixture containing anything except obvious poisons, advertising it as a cure for any disease, and selling it broadcast to the public on payment of stamp duty?—No, if you exclude poisons.

I am excluding poisons. I am anxious to have your definite answer on that?—There is nothing, to my knowledge.

Mr. Harry Lawson: Is it not the case that the police can take action where there is manifest fraud?—Possibly they might proceed on the ground that it was a false trade description.

The Chairman: Are the police entitled to take action on the ground that offering a certain mixture for the cure of a certain disease is a fraud?—I hardly think so. It would depend upon the nature of the evidence available.

Mr. Lawson: Is it not the case that the police have not wished to take action from motives of public policy—that they have felt that to institute a prosecution would advertise the article?—I should not think so. I think in a case of positive fraud the police might possibly take proceedings.

Mr. J. C. Ledlie, deputy clerk to the Privy Council and chief clerk to the Privy Council Office, gave evidence as to the relations of the Privy Council Office with the law as to proprietary articles. This, he said, was only indirect and incidental; the Privy Council Office was in close touch with the different branches of the healing art—the doctors, dentists, chemists, veterinary surgeons, and midwives—and it exercised in regard to the bodies representing these classes a certain amount of supervisory influence. That influence could be exercised by nominees on the governing bodies; the General Medical Council, for instance, had five nominees of the King and Council. Influence might also be exercised through the right of approving the acts of the various bodies. As an instance of indirect relations the witness put in a report as to practice of medicine and surgery by unqualified persons in the United Kingdom. The jurisdiction of the Privy Council was statutory; it probably arose from the fact that the branches of the medical profession were moved by certain associations which had applied at one time or another for Royal Charters. For this purpose they must come to the Privy Council, and in the charters were reservations requiring that the by-laws must be approved by the Council.

The Chairman: It is not clear to me how the Poisons Act comes under the Privy Council.

The Witness: It is probably due to the fact that the Pharmaceutical Society in 1843 obtained a charter from the Privy Council.

What machinery have you for dealing with the sale of poisons?—The Acts are administered by the Pharmaceutical Society, which has its inspectors to detect the illegal sale of poisons.

Then a non-official body takes action?—That is so.

Supposing the Committee desires official information on any point as to the sale or advertisement of proprietary articles, to what Government department should the inquiry be addressed?—It would depend upon the nature of the information sought.

My point is that the control of all this is so split up; each department seems desirous of placing the responsibility upon another. I want to know how the public stand; there are the Privy Council, the Home Office, the Customs and Excise, all exercising some powers—I don't know whether the Local Government Board acts in this matter. What are the functions of the Home Office?—So far as I am aware, it acts in criminal proceedings. In my experience there has never been any difficulty as between the Home Office and ourselves as to which should take action.

But there is a confusion of departmental control in this matter?—I think the working of the law is very defective. It is open to any one to make or sell or advertise any preparation so long as it is not a poison, and it may be perfectly useless.

Are there any statutory regulations affecting the sale of proprietary articles as such?—Not that I know of, except the stamp duty.

Dr. Lynch: Is it the business of any Government department or any official whatever to concern themselves with the growth of the use of pernicious drugs, and to do something to protect the public?—No.

Is there known to you any check of any kind which would prevent a man having no qualifications whatever putting some worthless drugs together, bolstering them up by advertisement, selling them at prices absurdly out of proportion to their real value, and not coming within the purview of the law, except as regards the stamp duty?—No, unless it be by an individual action brought by some one who complained that the preparation had not had the results claimed for it.

Have you heard of such a case?—No.

There is practically no check whatever?—That is so.

In reply to Mr. Harry Lawson, the witness expressed the opinion that the Privy Council should be empowered to exercise any new duties with reference to regulating the sale of deleterious products. He did not think it would meet the case if the provisions of the Poisons Act were applied so that the term "poison" was used in regard to all deleterious so-called remedies. Separate legislation

would be required. A body under the Privy Council would be needed to carry out the duties of inspection, and so on.

Mr. Glyn Jones: Am I right in saying that any proprietary article which contains any of the drugs mentioned in the schedule to the Pharmacy Act comes within the regulations of that Act?—Yes.

And if it is suggested that any article not in the schedule is deleterious or poisonous, and that the regulations should apply to it, the Pharmaceutical Society can pass a resolution which is submitted to the Privy Council, and that body says "Aye" or "No," whether the article shall be added to the list?—That is the practice.

Then the present law provides machinery for adding to the list anything which should be regarded as a poison, and when thus added proprietary medicines come within its scope?—Yes, under the Act of 1862.

Dr. Lynch: But you would not go so far as to say something could be added which was not a poison, but which might be deleterious?—No, I would not go as far as that.

The Committee then adjourned until Thursday, May 16th.

Nova et Vetera.

THE TEN PLAGUES OF JERUM THE PHYSICIAN.

A TALE OF PHOENICIA.*

JERUM THE PHYSICIAN once lived in the city of Tyre in Phoenicia, and was famed for his learning and skill, so that the sick came to him from Egypt, and from Syria, and from other lands, and gave for his advice and help presents of gold and silver and precious stones. Yet was he not proud or puffed up like his neighbour Joram of Sidon, who disdained to go to the poor and needy because they could not pay. After Jerum had spent the whole morning among the sick of the city, one might see him in the evening riding on his grey mule about the villages, where he went from house to house, bringing everywhere comfort and help. Both rich and poor in Tyre knew how to prize such service, and they honoured Jerum above all other physicians.

One day at noon, as he returned to his house to eat hastily the simple meal which his wife Astaroth had prepared, he found before his door a man from Judaea. He was shaking the dust from his feet, and he crossed his arms on his breast and asked, "Are you he whom I seek, the physician Jerum?" "I am he," said Jerum; "tell me quickly your desire, for lo! I am in haste." Then the man raised his hands and said, "Praised be Jehovah, who has guarded me on my journey and brought me safe to your house. I am Amos, servant of the High Priest Ezekiel in Jerusalem, and I am sent by my master to beg you to visit him in Jerusalem that you may free him from his heavy affliction."

"That," said Jerum," is easy to say, but hard to do. Why did not your master himself come to me, that I might see him face to face, and know his sickness?" "Through long illness he is weak as an infant. May Jehovah soften your heart to go with me to my master!" "How can you ask such a thing," said Jerum. "Can I leave the many sick here and in the villages around?"

"It is Jehovah's will that you follow me," cried Amos, and raised his hands once more beseechingly. "Think well what you say. If you fulfil my lord's request Jehovah will bless you in all your ways. If you tarry you will have only trouble and sorrow, and no work of your hands will prosper." "What is this that I hear?" said Jerum, and he strode into the house, leaving the man from Judaea standing at the door.

When Jerum had eaten and was satisfied he mounted his mule and rode out to the next village where one of the king's woodcutters had that morning fallen from a tree, and had broken his right arm. Jerum pulled the bone till it was straight, laid it on a splint of wood, and bandaged it as he had learned, and then in good spirits rode to his home. But that night as he lay in bed a man knocked at his door. "Come speedily to the woodcutter whom you bandaged to-day, for his pain grows always worse." And Jerum arose and took his mule from the stable and rode out to the man. The hand was swollen like a pillow, and all feeling had gone from the fingers, and Jerum took off the splint and bandages straightway, and rode out every day to rub the arm with powerful salves, yet the fingers remained numb, and the bone healed up awry and the man was a cripple. Then the man's wife took her husband into the city and pleaded before the judge, and the judge ordered Jerum to pay the woodcutter an hundred pieces of silver. From that day the heart of Jerum was sad, and the best dishes which his wife Astaroth could prepare were tasteless. Then said his wife, "Husband, you are sick and need rest. Take my counsel and go up into the mountain of Lebanon where you have friends among the herdsmen. Abide with them till you are well." "And who will care for the sick who need me while I am away?" asked Jerum with a troubled face. "Have no care for that," said his wife. "Is there not Hanno, my sister's son, who has just come from studying under the most famous physicians of Greece? Let him come and take your place so long as you are away." And it was so, and Hanno came from Sidon where he lived with his mother, and Jerum bade farewell to his wife and his young son Hamilcar and his nephew, and, staff in hand, he climbed up into the mountain.

And it came to pass some time after he had left the town that a great feast was held in Tyre in honour of the god Baal, and one of the bullocks for the sacrifice brake loose and struck the high priest with his horn in the body so that the man was borne off for dead. And the whole people cried out for the physician Jerum, and when he was not found at his house they brought his nephew Hanno to the place, and Hanno washed the wound with a sponge and bandaged it with all care as he had learned to do in Greece. But the priest died in great agony in the following night, and a man of Tyre who had helped at the dressing of the wound told how he had seen with his own eyes that Hanno had sewed up a sponge in the belly of the high priest. And there was a great outcry against the young physician so that he fled by night to his home at Sidon, for the people would have cast him out.

And when Jerum was well and returned to his house from the mountain he saw from afar his wife Astaroth approach, and come to meet him, with his son Hamilcar. And Jerum was glad and showed his joy, and after he had greeted them he said, "Why is not Hanno come also with you to meet me?" But Astaroth hid her face and began to weep and told him with tears all that had happened. Then Jerum tore his hair and his beard, and cried, "Woe is me that I went into the mountain and left the care of my people to a fool. Now is this plague worse than the first, and the children on the street will mock at me." And he was more sorrowful than before and feared to leave his house, thinking himself despised of the people of Tyre.

But Hiram the King remained well disposed towards him and bade him come to the castle to heal his wife Baaltis. Now the king had lately received from the Queen of Cyprus a beautiful young slave as a gift, and he was well pleased with her, and proposed to keep her in the women's apartments beside his wife. And his wife was wroth, and she fell into convulsions so that her maidens could not hold her. And Jerum came and gave her the most precious of medicines, but the convulsions would not leave her. Then went one of the maids to Joram, the physician of Sidon, and received from him a box with small white pills and a vial of clear liquid, and of these she gave the queen each day three pills moistened with one drop of the liquid. And on the third day when the queen had taken the second pill she had news that sudden death had befallen the beautiful slave from Cyprus; and she rose from her bed and was well as heretofore. And the queen began to praise the physician of Sidon who had given again her life and health, and she spake evil of Jerum so that he lost the favour of the king and might no more appear within the palace.

This pleased the other physicians of Tyre more than if the king had given them presents from his treasury, and

* Dr. Ludwig Hopf (Philander), of Stuttgart, has issued two series of medical fables. The story of Jerum is taken from the first series, *Medizinische Maerchen*, von Philander, published by Messrs. Levy and Müller, Stuttgart (price M. 2.40 in paper, 3.50 bound and gilded). The second series, *Neue medizinische und anthropologische Maerchen*, von Ludwig Hopf, is published by Franz Pietzcker, Tübingen. The translator has to thank Messrs. Levy and Müller and the author for their permission to issue this translation.

one of the most cunning went secretly to Sidon and learned from Joram the way to prepare the pills and the clear liquid. And when he returned he made known in all the streets of the city that he had studied the Sidonian art which had cured the queen and was prepared to treat all patients according to this art and half as cheap as Jerum with his expensive medicines. And all the people ran to him, and Jerum sat in his house and listened with wrathful heart to his wife, Astaroth, who said, "Will you not also study this Sidonian art? For see the king and the nobles and all the people have left you, and the money in our store grows daily less." "Far be it from me," answered Jerum; "rather let me fall in the sea where it is deepest than to give a sick man instead of medicine a worthless pilule and to deceive him with the hope of cure." And he hardened his heart and grew daily more silent. But his wife sat at the window and wept. And she saw the man from Judaea come again towards the house, and said, "Here is again the man from Judaea coming hither. Will you not this time go with him to heal the high priest that no further plague come upon us? For verily the man hath prophesied truly." "No," said Jerum; "I will not go with him. Said I not that I could not leave the sick in Tyre and its villages? Therewith must he be content." And he went down and shut the door in the face of the man from Judaea. Then Amos lifted up his voice and said, "Four plagues has Jehovah sent upon you. Ere I come again will they be multiplied." And he took his staff and turned his face towards Jerusalem.

And when it was evening and cool, Jerum rode to the next village to see a sick woman. And as he rode from the gate there sat the man from Judaea by the brook, bathing his hot feet. And Jerum made as if he saw him not and spurred his mule to hasten past. But the mule backed, and Jerum raised the stick which he bore in his right hand and smote the beast on the head, so that it reared and threw its rider to the earth. And Jerum fell upon a sharp stone and lay with broken heel before the watchmen of the gate. And they raised him and bore him on a plank to his own house. And there was great grief and lamentation from his wife and son; and he must lie six weeks in bed with his foot bandaged, and when he left his couch he must long go on crutches as one who is cripple. And when he was again well the people of Tyre went from him and made as if they knew him not. Then it became dark before his eyes and he staggered in his anger and went towards his house like one drunken. And he cursed himself and said, "Cursed be the day on which my mother bare me! Cursed be the hour in which my father sent me to become a physician! Is this the thanks for the many cures I have wrought and the reward for the good I have done to the poor and needy?" And he began to weep bitterly. And his wife Astaroth laid her hand on his arm and said, "Be comforted, the friends who cleave to you are not all gone. After you went out the rich Berosos of Samos, who dwells at the harbour, sent his servant that you might come and heal him from the boils against which all the skill of the other physicians has been vain. Go, then, and make your fame live anew."

And Jerum went and opened the boils with a sharp knife, and the man was healed. But Jerum noted not a little scratch which a thorn had made on the first finger of his left hand. And the poison of the boils entered into the scratch and poisoned his blood, so that his arm swelled to the shoulder as if a snake had bitten him, and he was bent upon his bed with pain. In this time of trouble, when he believed that the end was not far distant, there appeared to him in the night the figure of the man from Judaea, in form as he had seen him, and he heard his voice, which spake, "Six times Jehovah warned you to put away your hardness of heart and to go to Jerusalem to heal His servant Ezekiel. But you have stiffened your neck as at the first; therefore hath He sent and smitten you in the marrow of your bones. Repent, then, and say that you will follow me when you are again well." Then Jerum turned in his sleep and cried, "Depart from me, thou spirit of evil. I will have no dealing with thee." And his wife Astaroth awoke from sleep and asked in fear, "Wherefore, Jerum, do you cry aloud?" And he said, "See you not the man from Judaea with his long beard come to torment me? But I will take my staff and chase him away." Then Astaroth saw that he spake in fever, and she gave him a fresh drink and cooled his forehead with water and with vinegar so that he slept peacefully. And when the morning brake and Astaroth would dress the arm, it was issued in the night and all the pain had gone. And Jerum was well again and could go to the patients who called him. Then Berosos gave a feast in his honour and invited all the nobles of Tyre, and praised Jerum as the first of his friends and that he had given his life for him and had saved him. And all who were bidden came to Jerum and embraced him as if they had never forsaken him. And from this time his repute increased so that the sick would have no other physician and his house was ever full of those who desired his help. And when it was night and Jerum, wearied with the work and heat of the day, had laid him to bed they still knocked at his door and would not rest till he had gone to them. And when he came home and went again to rest he in his dreams heard still a knocking on the door and rose and called, "Who is it that desires me?" but there was no one to be seen. And Jerum said to his wife, "Am not I the most tormented man in the world? Verily if I have not rest from the many sick my strength will fade like grass in the summer drouth." And Astaroth laughed and said, "Are not you well and strong? If you would not go when the sick call you why do you not become one of the priests who lead an even life by day and have their rest by night?" And Jerum knew that he would get no consolation from his wife and he bare his trouble in silence. And at this time the king gave orders to the governor of Tyre to find out how many children were born each year and how many at each age died in the city from disease and accident. And the governor sent for Jerum and gave him tablets whereon to write the children of the last year, and still others for the dead and the nature of their diseases and accidents. And when they were ready and fairly written he was to bring them again and deliver them into the hands of the governor. Then Jerum pleaded with the governor earnestly and said, "I pray you hold me excused, for lo, the hours of the day are given each to his appointed task and my work for the sick leaves me no time for other things." Then was the governor wroth, and said, "It is the king's command that I have laid upon you, and if you do not obey it shall be my care to prepare for you meet punishment." Then Jerum sighed and bore the tablets to his house, where he sat over them many nights while others slept. And when all were ready he took them to the governor. And the governor was gracious unto him and said, "Since you have prepared all these so exactly the king has provided for you that you be the physician to all those who work in the royal workshops. And each shall pay a part of his wages, and when he is ill he shall have no other physician, and he shall receive a portion of his wages, and you Jerum shall write for each the days of his illness." Then Jerum thought of the money which would flow into his purse, and he thanked the governor, and merry at heart he went to his own house.

And it came to pass as the governor had said. He set overseers over those in the king's workshops, and they went on the first day of every month and collected from each a share according to the tale of his wages, and bade him when he was ill go to Jerum at midday when he had eaten, for this was the time when Jerum came home. And each day at midday there came the dyers and the glassworkers and the workers in amber and they stood at Jerum's door awaiting the medicine for their ailments. And those who had recovered came again and brought their tablets, that he might write thereon the days of their illness. And Jerum was hungry and thirsty, but could not be satisfied till all the tablets were written. And Astaroth his wife was grieved, and came to the door and asked, "Why do you not come to eat with our son and me the meal which I have prepared?" "How can I eat with you?" said Jerum. "See you not the many who still wait for their writings? Accursed be this new law that has made me a clerk instead of a physician." And he stamped his feet in his wrath; but day by day it was ever the same, and Jerum felt ever more weary and all the joy and pleasure had gone from his life. And there arose a lively voice within him, "Had you gone to the sick high priest at Jerusalem this plague had not come upon you." And he said, "If it was impossible for me to leave Tyre before on account of the many who sought me,

it is to-day even more so, for each day sees an increase in the load that is laid upon my shoulders. Are there not physicians in Jerusalem or in all Judaea? To them should he send and call them to his bed."

And it fell about this time that the children of Tyre were smitten with an evil plague, and there was no house where there was no child laid down. And Jerum went from house to house and gave the children medicines and cooling drinks. And when the sickness waxed day by day he said, "Till now I have guarded my son Hamilcar and kept him from illness. Lo, now will I send him and his mother into the mountain that he may not be ill also." And he sent to his wife to bid her get ready to go into the mountain. But when he came to the house the boy lay already in fever and none of the medicines which had healed the other children did him good, and he became weaker and weaker and died in the selfsame night. Then Jerum rent his clothes and put ashes on his head, and would neither eat nor drink while his son lay dead in the house. But when the boy was buried he ordered his servant to saddle his mule and began to prepare his satchel with food for a journey. "Whither do you ride?" said his wife Astaroth. Then he answered, "Ten plagues already are come upon me, but the last is worse than all the rest. Therefore will I go to the high priest that is sick at Jerusalem that greater evil come not on me and my house." And Astaroth wept and said, "Alas! had you followed the man from Judaea, our son Hamilcar had yet lived."

And he departed from his wife and rode silently on the road that leads to Jerusalem.

And on the eighth day, when the sun was already low in the heavens, he came to the gate of Jerusalem. And about midnight the gate was opened and a bier was borne forth, which many people followed with weeping and lamentation. And as they came near, Jerum said to one in the train, "Friend, will you not tell me to whom they give thus the last convoy?" And he knew not that it was Amos to whom he spake. But Amos knew the physician from Tyre, and said, "He whom you see upon this bier had yet lived had you come to his aid. Last night he bade them carry him to the roof of his house, and he looked towards the west if peradventure he might see you come. And when you came not he bowed his head and departed." "How can he then forgive my sin?" said Jerum. "He has already forgiven you," said Amos. "And as you have repented and have come even thus late the measure of your affliction is full, but that your obstinacy and delay be not forgotten, the plagues which have been laid upon you shall not be removed from the faculty of the physicians from now till the end of years. Depart now in peace and return to your wife."

And Jerum returned again to Tyre and lived long in honour in his native city, and they gathered him to his fathers and laid him beside his wife Astaroth. And the prophecy of Amos the servant of the high priest has been fulfilled, and there is no physician who has not suffered from the plagues of Jerum the Phoenician.

THE CHILD STUDY SOCIETY.

ANNUAL CONFERENCE.

THE opening of the annual conference of the Child Study Society, which was presided over by Sir RICHARD MARTIN, took place on the evening of Thursday, May 9th, at the University of London.

President's Address.

The presidential address was delivered by Sir JAMES CRICHTON-BROWNE. Referring to the report of the Royal Commission on the Care of the Feeble-minded, he said inspection revealed a serious state of affairs. The returns from the Board of Education agreed closely with the estimates of the Royal Commission, and it would appear that there were 150,000 feeble-minded persons in England and Wales, of whom 48,000 were children in public elementary schools. The local education authorities were now in possession of information as to the number and condition of these children, which should lead to their proper classification, and to the provision of suitable education. The important point was that the education provided should have regard to the limitations and prospects of improvement of those for whom it was devised. The danger was that the education provided for the weak-minded would involve an outlay out of all proportion to the benefits which could possibly accrue from it. Humanity was inclined to lavish on them more than was really necessary, and it was deplorable to think that large sums were expended on the education of some of the feeble-minded who were ineducable, while other children of average intelligence, who would profit by education, were being reduced to feeble-mindedness by poverty and malnutrition. Another interesting and promising branch of child study still much in need of elucidation was that relating to the order of development of sex differences and characteristics, mental and corporeal. It would seem probable that the broad mental differences between men and women must have differences in cerebral organization underlying them. A well-established physiological difference between men and women was the composition of the blood. The blood of the adult male averaged 5 million red blood corpuscles per cubic micromillimetre of blood, the average in the adult female being 4½ million. The composition of the blood varied with the ages considered, and in girls at the rapid growth period the changes were of great significance, and should be well weighed in connexion with educational arrangements. There was a large amount of slight anaemia that escaped detection. Girls grew sluggish in their work and were pronounced lazy, or looked pale and were urged to more active outdoor exercise, but all the time it was poverty of blood that was at fault, and that could not be relieved by tutorial monitions or violent hockey.

Education of the Deaf.

The second meeting of the conference took place on Friday, May 10th. Dr. J. KERR LOVE read a paper on the influence of defects of hearing in relation to the mental and physical defects of the child. Educational knowledge was chiefly gained by the eye and the ear, and it should be the business of the school to see that both those avenues of learning were developed as far as possible. The absence or great defect of hearing arrested mental progress, with the result that a deaf child at 7 years had a brain as much as half an inch smaller than that of the normal child. Thought processes were slower in the deaf than in those whose hearing was normal, but wherever hand and eye, muscle and bone, and tendon and nerve were the chief factors making for success the deaf were equal to those without defect of hearing. Deaf children should commence language training at 3 years of age, or as soon as the fact of deafness was discovered. The school period in schools for the deaf should be extended to the age of 18. The semi-deaf and the semi-mute should attend special schools from which the true deaf and dumb should be excluded. An animated discussion followed, in the course of which Mr. MACLEOD YEARSLEY drew attention to what he described as an absurd anomaly in British law. While it was compulsory for the blind child to begin his education at 5 years, the compulsory age for the deaf child was 7 years. He quoted statistics to show that the percentage of mental defect in hereditarily deaf children was considerably lower than in sporadic cases of deafness. It was important that special provision should be made for the education of the deaf, and the speaker warned teachers to make every effort to prevent the production of acquired cases of deafness. A suggestion was made by another speaker that the hearing of school children should be tested periodically in order that those whose hearing was impaired might be gradually drafted into these special schools.

Influence of Defective Vision.

A paper on the defects of vision was next read by Mr. N. BISHOP HARMAN, who commented on the difficulty of stimulating the remaining sense faculties of blind children. In the London County Council it had been found desirable to segregate the short-sighted, and to teach such script as was necessary by blackboard work, the main part of the curriculum being oral teaching and handicraft. To strain the growing eye of the child was to do the child grievous bodily harm. It was necessary strictly to limit the eyework of the young child and to detect and treat defect by the provision of effective school inspection and a suitable curriculum.

Treatment of the Tuberculous Child.

A paper on the tuberculous child was read by Dr. Jane Walker. Tuberculous infection in children was nearly always domestic and not scholastic in origin. In the case of children suffering from non-pulmonary tuberculosis, an indispensable element in treatment was after-care, and it was possible in special sanatoriums to combine treatment and education. She also referred to the value of the dispensary and the sanatorium as the chief lines of defence against the disease. She urged that cases of tuberculosis should be admitted to the general hospitals. Miss M. A. Broadbent, who opened the discussion, gave details as to the success of open-air school treatment in cases of tuberculosis. Dr. A. E. Hayes urged that the use of the open-air school and other methods that had been found of value for special classes of children should be adopted for normal children.

Dangers of Over-Education.

The third meeting was held on the morning of Saturday, May 11th, when Dr. Theo. B. Hyslop read a paper on mental hygiene in relation to the development of the child. He said he would hail with thankfulness the day when they could adopt the Japanese system and exclude from school all children under the age of 6 years. In the meantime, it was to be hoped that all local authorities would adopt the system which had been started already in this country of excluding children under 5. The habits of cleanliness, temperance in eating and drinking, and all the various factors which were comprised under the term "hygiene" should be part of the development of the child, and none of these elementary conditions should necessitate the displacement of any of the subjects now taught in schools. It was necessary that teachers should have definite and reliable information on the subject of hygiene. The brain of the nation was now taxed to excess, and it was the brain of the nation that was showing such formidable signs of decay. Our educational system of endeavouring to force all brains to a high standard of competency was not only often useless and unprofitable, but actually deleterious.

Sir J. Crichton-Browne said that on reading the school literature of to-day it sometimes occurred to him to ask whether the doctors might not be inclined to go a little too far and dictate to the teachers. A scientific tyranny of this country would be quite as bad as the tyranny of priestcraft ever was. What the medical man had to do was to provide the teachers with a little better material on which to operate, and they could do that by improving the physical conditions under which the child spent its early life.

Dr. Mumford (Manchester Grammar School) said his inquiries tended to show that the breakdown of children arose, not from pressure at school, but chiefly from not having sufficient sleep. Miss Bathurst (ex-Inspector of Schools, Board of Education) urged the prohibition of the three R's for children under 6 years. Dr. Kirkpatrick (Fitchburg College, Massachusetts) advocated the abolition of all examinations and degrees. To force a child to learn a given thing at a given time, and, worst of all, to pass an examination on it, was to do injury to its mental health. It was not necessary to force a child to learn, for he was a living interrogation point. The wisdom of this opinion was questioned by various other members, who contended that young children were better off in schools than on the streets, or in unhealthy home conditions.

Instruction of Children in Sexual Hygiene.

A debate on the question of organized instruction in sexual hygiene for school children was opened by Dr. Eric Pritchard, who said the home had shirked the duty in the past and would probably continue to do so. What the home neglected the school must undertake, and in many ways the teachers were better fitted for the duties, though they were not equipped with the necessary scientific knowledge to instil lessons of that kind with confidence and complete detachment. He thought they should invent a new class of experts, selected from among school doctors, endowed with special gifts of understanding the psychological side of child nature. Dr. Taylor, of Halifax, said parents would not give the desired instruction. The school doctor was too scientific and too physiological, and he thought it would be necessary to go back to the teacher. Dr. Kirkpatrick said that what was needed was the development of a proper vocabulary. He believed the time would come soon when they might depend upon the mother for the early instruction of the children. A similar view was expressed by Mrs. Cloudesley Brereton, who said it would be unwise as well as impossible to wipe out the parents altogether; every mother knew best her own problem; whilst Dr. Alice Corthorn declared that the mother was becoming the greatest expert in their midst. Their work should be to stimulate her to action, and leave her to do the work which no one else could do as well.

Conclusion of the Conference.

A meeting of the Council took place on Saturday afternoon in the rooms of the Royal Sanitary Institute, Buckingham Palace Road; and the conference terminated with a reception held in the evening at the private residence of Sir Richard Martin, President of the London branch of the Child Study Society.

LITERARY NOTES.

The *Review of Bacteriology, Protozoology, and General Parasitology*, edited by Alexander G. R. Foulerton, F.R.C.S., and Charles Slater, M.A., M.B.Camb., assisted by S. R. Gloyne, M.B Leeds, D.P.H., and H. K. Whittingham, M.B.Lond., D.P.H., which has hitherto been published as a monthly supplement to the *Medical Officer*, now makes its appearance as a separate publication. Five parts will be issued during 1912, but in future six parts will be published each year. It is published by Science Reviews, Limited, 36–38, Whitefriars Street, London, E.C.

Thomas Love Peacock, the author of *Headlong Hall*, *Nightmare Abbey*, and many other books in prose and verse, is a classic; but his fate has been that of so many classics—he is read only by the few. He deserves a better fate, though his peculiar intellectual quality must always make him "caviare to the general." A good deal of his satire on "perfectibilians," "deteriorationists," and "morbid visionaries" could be applied to the present day when the reformer is so much abroad in all directions. In glancing through some of his verses recently we came across the following lines, which might almost be taken as showing that the author beheld in a prophetic vision the attitude of Mr. Lloyd George as expressed in his earlier deliverances on National Insurance:

> After careful meditation,
> And profound deliberation,
> On the various pretty projects which have just been shown,
> Not a scheme in agitation,
> For the world's amelioration,
> Has a grain of common sense in it, except my own.

The animated correspondence which has recently appeared in the daily press concerning the origin and nature of sardines has its parallel in the April number of *L'Hygiène*, in which M. Francis Marre discusses the characteristic features of the sole, and the means whereby it may be distinguished from other and less delicate varieties of flat fish. The position of the eyes is the surest indication that the so-called sole is not the more economical brill, plaice, or flounder, but has a legitimate right to its title; and M. Marre adds some useful rules for the guidance of the would-be purchaser, which, if carefully observed, should enable him to avoid food poisoning by procuring absolutely fresh fish for his table. Articles of food, however, are by no means the most prolific source of infection. In the same number of *L'Hygiène*, M. Emile Gautier draws a vivid picture of the risks incurred through handling ordinary playing cards, though he frankly confesses himself unable to propose an adequate remedy for a state of affairs which is more or less unavoidable since it applies to bank notes, newspapers, letters, and all the other appurtenances of civilized life. In the same issue there is an interesting article by Dr. Robert Leroux, on the principal causes and symptoms of nasal obstruction; whilst Dr. Maurice Nigoul contributes a short account of the treatment of tuberculosis in its earliest stages, and a writer who signs himself "H. B." has paid a generous tribute to the memory of Lord Lister, and the part played in popularizing his teaching by his great disciple, Professor Lucas-Championnière.

British Medical Journal.

SATURDAY, MAY 18TH, 1912.

FIRST MEETING OF THE JOINT ADVISORY COMMITTEE.

THE Advisory Committee of the Joint Committee of Insurance Commissioners at its first meeting last week did little business of direct interest to the medical profession beyond consenting to work in two sections, rather against the preference of the friendly society representatives, who claimed to be interested in both. The one section, which dealt with questions of contributions, accounts, book-keeping, subcontracting, and the like, held a very long sitting under the chairmanship of Mr. Masterman, M.P. The other, to which medical matters had been referred, continued under the presidency of Mr. Lloyd George; but after it had been made plain that it would act as an advisory and not as a drafting committee, and after some minor matters of procedure had been settled, it shortly separated for want of any programme of the work it was proposed it should do.

At the opening of the proceedings, when the full Committee sat together, Mr. Lloyd George, who presided, made a speech the most important point in which was perhaps his recognition of the constitutional position of the Committee, namely, that it was to advise and assist in the preparation of regulations, not to negotiate their acceptance. Mr. Lloyd George and his immediate advisers have, no doubt, learnt a good deal since this time last year, and in addressing the meeting last week, when among his audience he had a number of medical men representing more or less directly all departments and kinds of practice, he refrained from those taunts which fly so readily from his tongue and rankle so long and so deeply in the hearts of those he has chosen to regard as his adversaries. So far from being the adversaries of his ostensible, and, we believe, quite sincere, desire to better the health of the nation, the members of the medical profession would have been his strongest allies and best instructors had he realized, some three years ago, when the serious work of preparing a national insurance scheme was undertaken, that he and those who were assisting him in drafting the insurance scheme stood in need of the better and fuller information which the medical profession alone was really competent to supply. Instead of this, he seems to have allowed himself to be influenced by empirical data which must have been furnished by persons very imperfectly acquainted with the true facts, or interested, as were, perhaps, some of the friendly society officials he consulted, in concealing them.

It is only necessary to compare the speech which Mr. Lloyd George delivered when introducing the bill into the House of Commons on May 4th, 1911, with the remarks which he addressed to the Advisory Committee on May 10th, 1912, to see how far the truth of this has, mainly through the recent action of the British Medical Association, been brought home. It would be to enter a fool's paradise were we to affect to suppose that their full significance has yet been appreciated, and any tendency to stray from the straight path would be at once neutralized by the perusal of some passages in the earlier part of his speech last week. His observations on the duty of the loyal citizen to obey the law of the land were platitudinous, and, so far as the medical profession goes, wholly inappropriate. There has been no hint of passive resistance to the new tax; we shall stick on our stamps with as much zeal or resignation, according to individual beliefs and temperaments, as the rest of the community. The objections formulated by medical men in their professional capacity are not against the general purpose of the scheme or the taxation it imposes, but as to certain important points in the administration of the powers and funds it brings into existence. The medical profession has been free, as is the Bar, or as the Church in Wales is to be. It has educated itself, organized itself in the face of much short-sighted political indifference or opposition, maintained itself, and provided as best it could for the mischances of life and the disabilities of old age. Without any adequate consultation or inquiry it has suddenly been called upon to sacrifice its freedom in return for annual payments which it considers to be wholly inadequate, and to allow to be imposed upon it a form of practice—contract practice, partly at least on the capitation system, and largely under friendly society control—which it knows by bitter experience to be as a rule inimical alike to its own interests and to those of the public health. It has been called upon to make, as it believes, serious pecuniary sacrifices, and it has seen its temperate and courteously-worded suggestions for the improvement of the scheme and the safeguarding of its own interests and those of the community largely set aside, often without due consideration or adequate reason assigned, and sometimes with contumely. Is it to be wondered at that it has delivered an ultimatum, and is preparing to find a method of continuing to discharge its duty to the nation by organizing a public medical service, conducted by it independently of the insurance scheme?

Attention has again and again been directed in these columns to the policy of the State Sickness Insurance Committee, acting in accordance with the decisions of the Representative Body which registered the clearly-expressed wishes of the members of the Association. It is that any negotiations which may presently be set on foot must be carried on between the Insurance Commissioners and the constitutionally chosen and accredited representatives of the British Medical Association, the only body capable of ascertaining and expressing the considered opinion of the whole body of the profession. The Chancellor of the Exchequer, indeed, himself told the Committee last week that its functions were not administrative or executive but advisory. At the same time, there seemed to be some disposition to seek to induce the Association to submit draft regulations as to medical benefit for the criticism of the Insurance Commissioners. This would have been the converse of the proper constitutional order of business, and in flat contradiction to the Act. It provides that for the purpose of administering medical benefit every Insurance Committee shall make arrangements with duly qualified medical practitioners in accordance with regulations made by the Insurance Commissioners, and specifies certain of the conditions which the Commissioners must lay down in their regulations. The point recurs so often in the text of the Act, and is so much a part and parcel of the whole plan for getting it to work, that it cannot be seriously disputed. The duties

and powers of the Advisory Committee are to advise and assist the Insurance Commissioners in making and altering regulations; it cannot advise about regulations which are not in existence. When the first draft of the regulations has been submitted to the medical section, as it may be called for convenience, of the Advisory Committee, and after its criticisms have been considered, it may probably be found expedient to submit the regulations to the whole Committee sitting as a single body. After the text of the draft regulations has been published it will remain for the profession to judge whether the advice given by the medical members, which we cannot question will be in accordance with the reiterated expression of the wishes of the profession, has been accepted by the Commissioners. Discussion on this point arose at the meeting last week, but, as it took place after the Committee had divided and reporters had been required to leave the room, we are not in a position to give our readers an authoritative account of what took place. Those members of the Committee who are there as the representatives of the British Medical Association will, we surmise, have had little difficulty in defining their attitude, but it is to be regretted that the whole proceedings were not open, and are, apparently, not to be open in future. All the points likely to be in issue are well known, and the debates ought to be common property.

In a country in which the democratic principle is so deeply rooted, absence of concealment is so much of the very grain and substance of our conception of the proper conduct of public business that secrecy quickly breeds rumours, and rumours suspicion—the suspicion that what is not told is deliberately concealed because likely to be distasteful. The Commissioners, if sincerely desirous of finding a *modus vivendi*, as no doubt they are, would be well advised to raise no objection to the publication of the proposals they make to the medical section of the Advisory Committee, together with the remarks made thereon by the members present, who, as last week, will no doubt include representatives of friendly societies as well as of the medical profession. Nothing would conduce more to a calm consideration of the problems which arise, and nothing less will satisfy public opinion. We are not very sanguine that this advice will be accepted, but of its soundness we have no doubt. By its acceptance many occasions for misunderstandings and misapprehensions likely to create fresh difficulties and embarrassments for all parties would be avoided.

THORIUM AS A THERAPEUTIC AGENT.

THE high price of radium is a bar to its more general use, which, though it has indeed been partially overcome in this country by the establishment of the Radium Institute, still operates to prevent the general adoption of the treatment in many cases for which it might possibly be useful. Not long after Becquerel's fundamental observation in 1896 that uranium was radio-active, Madame Curie, by a systematic examination of a large number of elements, showed that thorium possessed the same property to a degree comparable with uranium. Professor Rutherford, now of Manchester, who has given special attention to thorium, has pointed out that for many purposes active preparations of thorium would be as valuable as radium itself, and that, as thorium is a commercial product—used, for instance, in the manufacture of incandescent mantles—the amount of active matter which might be made available from this source would be greater than that at present obtainable from the separation of radium from uranium metals.

The first product of thorium to be recognized was the emanation, which was shown to consist of four bodies—thorium A, B, C, and D. Rutherford then found that there was another product called thorium X antecedent to the emanation, and Hahn proved that this again was preceded by a very active substance emitting alpha rays, which he called radiothorium; it has a period of about two years. Hahn further showed that this was preceded by a rayless product, mesothorium, into which thorium is first transformed. Mesothorium when first separated is believed to be inactive, but in consequence of the production of radiothorium it is in practice active, and the activity increases, the maximum being reached in a little over three years; it then diminishes, so that its potential is about halved in five and a half years, as compared with radium in eighteen hundred years. This diminution of activity is less rapid when radium is present, as is said always to be the case in the preparations made from the monazit sand of Brazil.

For therapeutic purposes, therefore, mesothorium or thorium X are possible substitutes for radium. Professor v. Czerny and Dr. A. Caan, who have recently[1] related their experience of these substances, call attention, in the first place, to the fact that mesothorium exerts at least the same energy, weight for weight, in the same time as radium, as determined by the effect on a photographic plate. The superficial action on living tissues appears to be stronger than that of radium. They observed the effect on malignant growths, and report that mesothorium acts just like radium. A lymphoid infiltration is noted, and this is followed by a proliferation of connective tissue at the cost of the carcinomatous tissue. In their 120 cases of various forms of malignant disease and lupus the results obtained were not uniform. Of 32 mammary cancers, 19 showed a distinct subjective and objective improvement; of 6 carcinomata of the face, 4 were favourably influenced; of 10 oesophagus cancers, 4 responded fairly well to the special treatment. Two out of 9 cases of cancer of the tongue showed improvement, and a certain number of cases of malignant disease of the rectum, upper jaw, lip, uterus, stomach, gall bladder, lower jaw, cheek, testis, and hand did well under the treatment.

Practically all the cases of angiomata and lupus gave good results. Thorium X was given by intravenous injection, but, as animal experiments had demonstrated the highly dangerous properties of this substance, it was necessary to exercise great caution in its use. The time since the beginning of these trials is too short to admit of conclusive deductions being made, but Czerny and Caan find that the tumour frequently becomes smaller under the treatment and the subjective symptoms less marked; reactive swelling of the tumour occurs soon after the injections. The cases treated were advanced, hopeless cases, in which little, if anything, could be expected from any treatment, and they believe that mesothorium and radium are not specifics for cancer, but only very useful local remedies. They are fully satisfied with the results obtained, and promise themselves more when the apparatus has been improved and the technique perfected. Dr. W. Friedländer[2] has employed mesothorium locally, and reports most favourably on the action. He states that he was able to cure psoriasis plaques in one sitting, after *x* rays had failed. He is less positive in

[1] *Münch. med. Woch.*, April 2nd, 1912.
[2] *Berl. klin. Woch.*, April 8th, 1912.

regard to his cases of lupus erythematodes, which had proved refractory to all other forms of treatment, and which healed up in about ten weeks. His doubt is based on the experience that these cases at times undergo spontaneous remissions. Naevi were readily influenced by the treatment. Friedländer's conclusion is that mesothorium acts better than radium in skin affections. It will thus be seen that there are grounds for the belief that the products of thorium are valuable therapeutic agents, and that they may possibly prove even more generally useful than radium. It remains to be proved in how far either is able to influence malignant disease, and what disadvantages may attend its employment in other diseases.

THE TROPICAL DISEASES BUREAU.

WE stated a short time ago that the name of the Sleeping Sickness Bureau would probably soon be changed; this expectation is now about to be realized, and we are officially informed that from July 1st the bureau will be known as the Tropical Diseases Bureau.

The new bureau will deal with all exotic diseases which are prevalent in tropical and subtropical regions, and will publish at frequent intervals a *Tropical Diseases Bulletin*, which will take the place of the present *Sleeping Sickness Bulletin*. The director will have the help of an assistant director and a number of experts, who will be responsible for the different subjects, and will furnish authoritative reviews and summaries of published papers, to appear in the *Bulletin*. Thus, the results of the most recent researches on every tropical disease in every country, new methods of treatment, improved means of prevention, will quickly become available for the remote worker in the tropics. The tropical diseases of animals will be treated in a separate publication. To represent veterinary science Sir John McFadyean and Mr. Stewart Stockman have joined the committee, which includes among its members Sir P. Manson, Sir D. Bruce, Sir W. Leishman, and Sir J. Rose Bradford. Both the medical and the veterinary bulletins will be supplied free to medical and veterinary officers of India and the subscribing colonies; to others they will be on sale.

It may be recalled that the Sleeping Sickness Bureau had its origin in the International Conference on Sleeping Sickness held in London, under the presidency of Lord Fitzmaurice, in June, 1907, and March, 1908, to concert measures for the control of that disease, which was spreading rapidly in tropical Africa. It was then proposed to have a central international bureau "to extract and circulate all new literature on sleeping sickness." This project fell through, because the delegates were not unanimous as to the seat of the bureau, or even the necessity for its separate existence. Arrangements were therefore made by Lord Elgin, then Colonial Secretary, for the establishment of a British Bureau, maintained by imperial funds, with a contribution from the Sudan Government. The Royal Society agreed to house the bureau, and was thus indirectly a third contributor. Lord Elgin appointed an honorary committee, with Sir J. West Ridgeway as Chairman, to manage the bureau, and the first meeting took place in April, 1908. The bureau initiated the dispatch of several expeditions to investigate sleeping sickness in tropical Africa, and has supplied information to many inquirers.

It was not long before it became evident that what the bureau was doing for sleeping sickness could and should be done in the same way for tropical diseases generally. Medical men in the tropics have no facilities for consulting the very numerous papers published in many languages in journals all over the world. Even in London few have the time to read, much less digest, the vast mass of new literature relating to tropical diseases. Lord Crewe, when Colonial Secretary, and the present Colonial Secretary, Mr. Lewis Harcourt, have both interested themselves in the expansion of the bureau, and increased expenditure entailed will be provided by the Treasury, the Indian Government (now represented on the Committee by Sir A. Branfoot), the Sudan Government, the Union of South Africa, Ceylon, the Federated Malay States, Southern Nigeria, the Gold Coast, Sierra Leone, the Gambia, Fiji, Trinidad, and Jamaica; the annual available sum is approximately £3,000. The bureau, having outgrown the accommodation generously provided by the Royal Society, will have its quarters at the Imperial Institute.

The Sleeping Sickness Bureau has already issued 36 numbers of its *Bulletin*, each containing an account of current work in the field and laboratory on sleeping sickness and other trypanosome diseases, maps of distribution of sleeping sickness and tsetse flies, an exhaustive bibliography, a popular pamphlet on the means of prevention of sleeping sickness, and more recently *Bulletins* on kala-azar. The circulation of the monthly *Sleeping Sickness Bulletin* is 1,100 copies, of which about half go to Africa. The present library, in which current files of all the journals of tropical medicine are to be found, forms the nucleus of a good tropical diseases library. It is expected to grow rapidly, and to become of great value to medical officers home on leave from the tropics.

STATUS OF MEDICAL DEFENCE SOCIETIES.

IN our medico-legal colums this week will be found an account of an action of much interest to medical men. The matter is one in which the London and Counties Medical Protection Society is fighting not only its own battle but that of all allied societies. It will be noted with satisfaction that so far the society has been successful, but inasmuch as, presumably, it is possible that the case may go to the House of Lords the final outcome is not yet assured. The offence alleged against the society—that of Maintenance—is one of which little comparatively is heard nowadays. Judging from the judicial deliverances on the most recent occasion on which it had previously come before the appeal court—some four years ago—it is an offence not easy to define, since though its germ perhaps remains unaltered its relation to its environment has been greatly modified by the complexity of modern social conditions. As a legal offence reference is made to it several times in rolls of Parliament and records of English guilds dating back as early as the fourteenth century. At that time the offence seems to have represented a very human kind of charge, since it had a near congener in the feeling which even nowadays makes spectators of a quarrel "keep the ring" and tend to turn upon those who so far do not mind their own business as actively to aid one combatant or the other, even though fairly matched. Though one of the judges in the previous case said it was much easier nowadays to say what maintenance is not than what it is, legal authorities in past generations, when speaking of the offence as it then stood, did not hesitate to define it positively as well as negatively. It is described by Blackstone, for instance, as "an officious intermeddling in a suit that in no way belongs to one, by maintaining or assisting either party with money or otherwise to prosecute or defend it"; while Coke, an earlier authority

still, described it as "a taking in hand, bearing up or upholding of quarrels and sides to the disturbance or hindrance of common right." Other offences of the same order as maintenance, and possibly governed by the same considerations, are barratry and champerty. The former term figures largely in marine insurance policies, where it has a special significance, but as otherwise used represents the act of habitually stirring up legal and other strife. Champerty, on the other hand, is aiding a plaintiff in return for a promise of half or other share of the proceeds if the action proves successful.

PHONO-CINEMATOGRAPHY.

The Friday evening discourse at the Royal Institution last week was given by Professor William Stirling, of Manchester, who demonstrated the remarkable degree of perfection to which the apparatus for obtaining a simultaneous record of sight and sound has been brought by the well-known inventor, M. Leon Gaumont, of Paris. The conditions to be fulfilled were, he said, absolute synchronism between the phonograph and the cinematograph, both in recording and in reproducing the result; registration of sound by the phonograph at the proper distance at the same time as the registration of the pictures on the moving film, without the phonograph being in the field of the cinematograph; and, finally, the amplification of the sound so that a large audience could hear the sound and observe the exact correlation between the movements of the speakers, actors, or singers, and the audible sounds as regards pitch, loudness, and quality of tone. Professor Stirling said that the problem had occupied the attention of many investigators for fifteen years or more. Among these experimenters was Emeritus Professor J. G. McKendrick, a photograph of whose apparatus, with its inventor seated beside it, was shown. All difficulties had at length been overcome by M. Gaumont and his collaborators, who had reported their first success to the Académie des Sciences over a year ago. The two essential parts of the apparatus—the phonographic and the cinematographic machines—were driven, each by an electrical motor of identical pattern and of approximately the same power, actuated from the same source. The speed of the phonograph was the controlling factor. It was kept constant, and any correction in speed required to synchronize the two machines was achieved by accelerating or retarding the speed of the cinematograph instrument through a differential gearing introduced between it and its motor. The apparatus had been fitted up in the lecture theatre by MM. Gaumont, and some very striking demonstrations were given, including a crowing cock, a lion trainer in the lion's den, a person enduring, not very patiently, the agonies of an attempt to carry on a telephonic communication when the line is crowded, a sailor reciting the "Ballad of the Clamphercown," a musician playing on the banjo, the retribution which befell a grumpy railway traveller, and a version, unintentionally burlesque, of the reception of the toast to the King at an English public dinner. The synchronism in all cases was remarkable, and, as far as the eye and ear could detect, perfect. That the combination may be of use in medicine cannot be doubted and was made obvious by one of the demonstrations. In conclusion, Professor Stirling showed an interesting series of cinematographs of natural objects obtained by M. Gaumont by the three-colour process. They included flowers, butterflies, and moths. In the case of some of the butterflies the lecturer first demonstrated the effect of a beam of light falling upon the actual specimen in rotation, and then showed the cinematograph film, which reproduced in striking manner the iridescence on the wings of some species. Owing to the perfection of the three-colour process, the projections were quite free from the green tinge which seriously detracts from the effectiveness of the exhibitions of colour cinematography commonly to be witnessed.

SECONDARY *X* RAYS IN THERAPEUTICS.

Two years ago Sir J. J. Thomson interested radiotherapists by his suggestion that secondary x rays might have medical utilities. If a beam of x rays from a tube is allowed to fall on metals, or even on non-metallic substances of a certain nature, secondary rays are produced by the substances in question. It may even be said that these substances become temporarily radio-active. The secondary radiation can penetrate tissue to a definite depth, and the extent of penetrability varies with the atomic weight of the element concerned in its production. The rays from iron, for example, proceed only for an infinitesimal distance, while those from silver have a range many times as great. But whatever the character of the primary x-ray beam, providing only that it has a certain degree of "hardness" or penetrability, the secondary radiation is specific to its element. It is obvious that we have here a valuable property, especially in view of the fact that ordinary x rays from a tube are heterogeneous and to a great extent incalculable, and that although they can be made to reach a deep-seated lesion, their therapeutic action is feeble. One of the most resourceful of the investigators on the medical side of this subject is Dr. F. Hernaman-Johnson; in a paper read recently before the Electro-Therapeutical Section of the Royal Society of Medicine he stated that he had employed these secondary rays both to augment the primary radiation and as a substitute for it. In considering the first of these uses he suggests a new nomenclature for the various directional types of these secondary rays. If a thin plate of zinc, for example, be placed in the path of the primary beam, secondary radiation will be produced on both sides of the plate and also within its substance. The rays which come off from the zinc in a direction opposite to that of the exciting rays—as though they were reflected, which, however, is not the case—he calls "anadrastic"; those which leave the other side of the zinc in company with the primary beam still sweeping onwards he calls "syndrastic"; and those which act in all directions within the metal "pandrastic." In order to obtain therapeutical effects with rays of the first of these types it is necessary to have the plate of metal or other "intensifier" placed behind or below the lesion; to obtain effects with the second type it must be placed in front of or above the lesion; and in the case of the third type the molecules of the substance have to be scattered in finely divided form throughout the mass of the diseased tissue. The "anadrastic" rays are useful largely for ulcers, and silver in these cases is the most suitable substance, for the "silver ray" has an effective therapeutic range of 1 cm., that of tin 2 cm., of zinc 0.5 mm., and of iron 0.25 mm. In only a few situations, such as the nose and mouth, is it possible to place metal plates on the other side of the lesion, and therefore resort is made to injections of precipitated silver in suspension in some viscid fluid. A rodent ulcer at a standstill under x rays of the ordinary type has been stimulated to heal when, in addition to the continued x-ray action from without, some precipitated silver has been introduced beneath its base. The silver acts as an intensifier of the primary ray, and the tissues immediately above it are subjected to a double bombardment from opposite directions. Under special conditions, this method has even been applied to the relief of pain and discomfort in malignant tumours of the alimentary tract. "Syndrastic" rays appear to be chiefly of value in shortening exposures in superficial skin lesions; while an effect from "pandrastic" rays is obtained by injecting within the mass of malignant cells a diffusible salt containing an element of suitable atomic weight, such as bromine and strontium, which give rays having a range of 1.25 mm. and 2.5 mm. respectively. Thus the whole of the tumour becomes the seat of a soft radiance. Treatment in which no primary rays reach the

part, secondary rays only being concerned, is carried out by an arrangement called a "ray transformer." This is a little box in which the *x*-ray tube is effectively shielded, and the transforming plate, which may be coated with any substance, is placed at such an angle that when the secondary radiation is excited its pure beam alone issues from the opening below. The effect is slow, of course, compared with the ordinary exposure, but the rays are at least of known penetrability, and this advantage is considerable in view of the risk involved in an indefinite bombardment in the neighbourhood of certain organs. Although the author mentions that he has treated 35 cases of his own, chiefly by some form of intensification, and that the results encourage him to further trials, the paper necessarily presents rather more theory than practice, but for those who in future try this method—and doubtless they will be many—it will be of great value.

THE FRENCH HOSPITAL.

THE forty-fourth annual dinner of the French Hospital took place at the Hotel Cecil on May 11th, under the presidency of His Excellency the French Ambassador. Among those present were the Lord Mayor, the Sheriffs of London, various members of the Corps Diplomatique, the hospital staff, and over 300 supporters and contributors to the hospital. Despite the depressing effect of the Insurance Act and the depletion of the public purse by the large sums collected of late for other charitable purposes, subscriptions to the amount of £3,800 were announced by the Secretary. After the usual loyal and official toasts, the Ambassador proposed "The Medical Staff." Dr. George Ogilvie, Senior Physician to the Hospital, who spoke in French, replied to the toast. After some introductory remarks, he proceeded: "Il est presque superflu de dire que le but de notre profession est de prévenir ou de guérir la maladie et si nous n'obtenons pas ces résultats, alors notre but est de soulager l'humanité souffrante et de prolonger la vie. Dans l'esprit du médecin il reste toujours une vive et durable impression de deux phases de son travail: l'une, la reconnaissance de ceux qu'il à secourus; l'autre, la résignation paisible dans la souffrance, qui est en vérité un tribut à la noblesse de la nature humaine. Messieurs, la reconnaissance des malades n'est-elle pas la plus douce récompense d'un médecin, car, si c'est la curiosité des malades qui fait le savant, c'est l'amour des malades qui fait le médecin."

THE WELFARE OF CHILDREN UNDER SCHOOL AGE.

THE Executive Committee which organized the two national conferences on infantile mortality in London in 1906 and 1908, attended by a large number of members of local authorities, has resolved to form a national association for the prevention of infant mortality and the promotion of the welfare of children under school age. The national conferences and the Executive Committee have hitherto dealt principally with matters affecting infants during the first year of life. The extension of the work is due to recent legislation, especially the institution of medical inspection of school children, and the National Insurance Act. The Committee considers that the time has come when the sphere of operations should be extended to include children between the ages of 1 and 5 years, who, up to the present, have not been specially provided for. The new association will have for its object the co-ordination of the work of existing societies and associations interested in matters pertaining to the prevention of infant mortality and the protection of child life, and the committee hopes to enlist the co-operation of public health and Poor Law authorities, medical organizations dealing with maternity and child life, and also philanthropic agencies, such as day nurseries, country homes, and associations of voluntary health visitors. The ultimate aim is the promotion of a child welfare movement which would ensure the supervision of the infant population until the age when children statutorily come under the supervision of education authorities. The Committee is making arrangements for a public meeting to be held at the Caxton Hall, London, on the afternoon of Tuesday, June 4th, to which the King and Queen have graciously extended their patronage. The President of the Local Government Board, the Right Hon. John Burns, M.P., will preside, and it is expected that Sir William Osler, Mr. A. J. Balfour, and the Archbishop of York will also take part. Further information can be obtained from the Secretary, Mr. William Jones, Sanitary Chambers, Glasgow.

HEALTH COLUMNS IN LAY PAPERS.

ATTENTION has been drawn from time to time to the practice of lay newspapers publishing a special column in which they profess to give medical advice and prescribe treatment to individual correspondents. The essential feature of such columns is that advice is given and treatment prescribed to patients who have not been seen by the medical adviser, who consequently has to rely upon the patient's description of his ailment, or upon his statement of his former medical attendant's diagnosis; both are obviously untrustworthy guides, and may easily lead to improper treatment. Apart from the fact that such a system may cause interference with patients already under the care of some medical man, it induces people to think it is possible for medical men to treat patients without seeing them, whereas such treatment may not only be harmful, but in many cases may cause serious delay in the application of proper treatment. Any procedure calculated to encourage self-drugging is obviously to be condemned, and the public should clearly understand that drugs should only be taken on the advice of a medical man after examination of the patient. The whole subject has frequently been discussed, and the propriety of medical men acting in this way on behalf of newspapers has been vigorously challenged, but "health columns" are still to be found in many weekly and Sunday papers. Whatever may be said in defence of such columns, we cannot shut our eyes to the fact that the Association has condemned them in plain and unmistakable language, and on grounds which we think will fully justify its action to all reasonable and fair-minded men. The last Annual Representative Meeting adopted the following resolution: "That the practice of medical men taking charge of columns in which answers to correspondents on medical questions are printed is highly detrimental to the public interest, and most improper from a professional point of view." We can hardly believe that any member of the profession will deliberately disregard this expression of opinion.

PARLIAMENTARY GRANT FOR SANATORIUMS.

THE Local Government Board in England has issued a circular letter to the councils of counties, boroughs, and urban and rural districts with regard to the parliamentary grant for sanatorium purposes to be made in accordance with the provisions of the Finance Act, 1911, and the National Insurance Act. The Board states that it has had under consideration the distribution of the sums so allotted, and goes on to give an outline of the recommendations of the Tuberculosis Committee. It points out that as sanatorium benefit under the Insurance Act will come into force on July 15th it is important that some arrangements should be available at that date, although it will not be possible for complete schemes to be in operation throughout the country so early. The Board suggests that the medical officer of health should be asked to submit a report setting out the existing means for the treatment of tuberculosis within the area, whether in the hands of the local authorities or otherwise, together with an

estimate of the needs of the area. The outlines of a scheme of completely correlated administrative action against tuberculosis in the area or for a combination of areas should then be formulated. In developing such schemes, the needs of children should be carefully borne in mind, and it is pointed out that in some instances it may be desirable to provide special schools for children affected or threatened by tuberculosis, and that with regard to making any such provision the Board of Education should be consulted. It is further suggested that, in order to avoid delay, interim schemes for providing dispensaries and beds urgently required should first be submitted, the outlines of the complete organization being at the same time indicated as far as practicable. The Board agrees with the Committee that a reasonable measure of latitude and elasticity is necessary to suit varying local conditions, and that at this stage it is not desirable to attempt to lay down hard and fast lines. In conclusion, the Board directs special attention to the views of the Tuberculosis Committee as to the necessity of having suitably experienced medical men for the senior appointments in connexion with dispensaries and sanatoriums, and agrees with the Committee that the effectiveness and economy of the administration of a scheme will be dependent in a large degree upon the judicious selection of these officers. The Board asks for a reply before June 8th, and requests that the reply may include particulars as to the salaries, and arrangements generally, proposed in regard to the staff, together with an estimate of the annual expenditure.

THE BRITISH MEDICAL BENEVOLENT FUND GUILD.

ON the afternoon of Thursday, June 5th, the day, we are informed, which will fall between the Derby and the Oaks, Sir George Alexander has arranged to lend the St. James's Theatre for a matinee in aid of the British Medical Benevolent Fund Guild. The programme is extremely attractive, the number of distinguished actors and actresses who are giving their services being remarkably large. The performance will open with the first act of *The Second Mrs. Tanqueray*, and among those who will interpret it are Mrs. Patrick Campbell, Sir George Alexander, and Mr. Cyril Maude; a scene from *Colonel Newcome* will be given by Miss Marion Terry, Miss Lilian Braithwaite, and Sir Herbert Tree: Miss Violet Vanbrugh and Mr. Arthur Bourchier will appear in a one-act play; Miss Irene Vanbrugh, Miss Hilda Trevelyan, and Mr. Gerald Du Maurier will appear in Mr. Barry's *A Slice of Life*, and Miss Lena Ashwell in *The Constant Husband*. Tickets can still be obtained from, among others, Lady Fripp, 19, Portland Place, W.; Lady Critchett, 21, Harley Street; Lady Bradford, 8, Manchester Square; or Lady Mackenzie Davidson, 26, Park Crescent, W. Our readers are already well acquainted with the objects of this Guild. It seeks to obtain additional support, especially from women, for the British Medical Benevolent Fund, and to supplement the work of the Fund by giving help and practical sympathy to its beneficiaries and others. That there is plenty of room for work of this kind must be evident to those who have read the reports of the cases assisted by the parent fund published in our columns from time to time; and it must be remembered that the Fund receives many more applications hardly less pressing to which it is unable to grant annuities. A point on which the managers of the Fund lay special stress, and one which will undoubtedly appeal to men and women alike, is that there are many children in the homes of the annuitants of or applicants to the British Medical Benevolent Fund who, without timely and discriminating personal sympathy and assistance, run the risk of never becoming useful and self-supporting members of the community. The Guild through its voluntary workers is able to do much good in this direction.

ANAPHYLAXIS IN THE HUMAN BEING.

A FEW cases of severe shock or even death resulting from induced hypersensibility to serum from a previous injection have been recorded since the study of anaphylaxis or hypersensibility has been introduced. Rosenau and Anderson examined one of these cases some time since, and a few other cases have claimed attention from time to time. The work of von Pirquet and Schick in describing "serum sickness" has thrown some light on the processes of the absorption of albumens, and the latest researches point to a rational explanation of the whole phenomenon. It may now be accepted that the absorption of the first dose of albumen produces a substance which has the faculty of rapidly splitting up albumen into the amino acids and other bodies. A number of these complexes of albumen act toxically and produce those symptoms which form what is termed the anaphylactic shock. Friedberger suggested that the shock might be due to one definite substance, but failed to establish the theory. Many other workers have also suggested that one or other of the amino acids is responsible for the shock. While a second injection in the guinea-pig is practically always fatal, when hypersensibility has been established, it has been found that the result occurs with a far lower degree of hypersensibility when the albumen is introduced into the vascular system than when introduced subcutaneously. It has, therefore, been stated that a second injection of serum in a patient should always be carried out subcutaneously. Lenzmann was led by two non-fatal shocks following intravenous injection to support this recommendation. Dr. J. Dreyfuss[1] has published a remarkable case of a boy who, having received a year previously a prophylactic injection of diphtheria antitoxin, was injected subcutaneously for the same disease and exhibited all the typical symptoms of anaphylaxis, including itching, vomiting, and clonic spasms, followed by obliteration of the radial pulse, and of the pupil reaction, and unconsciousness. Death took place about twenty minutes after the injection. Other causes could be excluded, and it was considered certain that the death was due to hypersensibility. Dr. W. Asam[2] also reports a case in which after a second injection of serum into the subcutaneous tissue very alarming symptoms came on, though the patient recovered. These accidents are undoubtedly disturbing, but, as Dr. Dreyfuss points out, they should not be taken as indications for the giving up of the use of antitoxin or other serum treatment. It must be remembered that they are very rare, and that the good done by diphtheria antitoxin far outweighs the evil of such untoward occurrences. Various suggestions have been made as to the means which could be adopted to avoid them. The most practical seems to be that of using the serum of an animal other than the horse when a patient has to be injected a second time with antitoxin. Goat serum or sheep serum would do well, and it should be easy to maintain small supplies of antitoxin from a fairly large variety of animals. Until more evidence of its value has been produced reliance cannot be placed on the power of calcium chlorate to prevent anaphylaxis. The deliberate induction of antianaphylaxis may prove a valuable method if it can be worked out for human beings. On the other hand, it should always be borne in mind that ether anaesthesia maintained for a considerable time masks the shock and finally saves guinea-pigs; so that if the physician fears the onset of the shock in a case of a second injection, or when the patient complains of itching immediately after the injection, ether anaesthesia should be resorted to and kept up until all risk of anaphylaxis has passed. This may be for one-half or one hour, or even longer. The anaesthesia may be allowed to pass off during the time, but must be immediately renewed as soon as any twitching indicates that

[1] *Muench. med. Woch.*, January 23rd, 1912.
[2] Ibid., April 9th, 1912.

the period of danger is still present. Doubtless future research will succeed in teaching us how to prevent these accidents altogether.

CENTRAL COUNCIL ELECTION.

MEMBERS are reminded that voting papers for the election of the Central Council for 1912–13 will be issued from the Head Office on June 8th. No member whose subscription is still outstanding for the year 1911 is entitled to vote. Members whose subscriptions are still outstanding should forward the amount to the British Medical Association, 429, Strand, London, on or before June 8th next.

THE next session of the General Medical Council will open on Tuesday, June 4th, when the President, Sir Donald MacAlister, K.C.B., will take the chair at 2 p.m.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

National Insurance Act.

Sick Benefit.

COLONEL BATHURST asked the Secretary to the Treasury whether his attention had been called to the fact that, under the National Insurance Act, a man, having paid six months' (twenty-six weeks') contributions and then falling seriously ill, was able to draw six months' sick benefit only, and could under no circumstances draw further benefit of any kind until he had paid 104 contributions; and whether he would take care that this point was made clear by means of a leaflet or through the lecturers engaged in explaining the Act.

Mr. Masterman said that after paying contributions for six months—that is, twenty-six weeks—an insured person was entitled not only to sickness benefit for six months, but also to the other benefits of the Act, including medical benefit, sanatorium benefit, and maternity benefit when and for as long as they were required, with the single exception of disablement benefit. Permanent disablement benefit could only be drawn after 104 contributions had been paid. The position was exactly and fully stated on page 2 of the official explanatory leaflet No. 10, and was also explained by the official lecturers.

Sanatorium Accommodation.

Mr. Wright asked the President of the Local Government Board what steps had been taken to collect information as to what accommodation in existing sanatoriums or other institutions would be available on July 15th, 1912, for the use of persons entitled to sanatorium benefit on that date.

Mr. Burns replied that in December last he had directed a form to be sent to each medical officer of health in England and Wales asking for information as to the number of beds provided for the treatment of cases of phthisis in his district, and as to the arrangements for the use of such beds. Over 1,750 of the 1,800 forms which were issued had been returned, and from these it would appear that, apart from beds in Poor Law institutions and excluding beds for which 30s. a week or more was charged, nearly 4,000 beds had been provided. He was not aware what proportion of these beds could be approved for the reception of cases under the National Insurance Act, nor could he say how many of these beds would be unoccupied on July 15th next. It was proposed to ask the councils of counties and county boroughs to organize schemes of treatment, either separately or in combination, and in the organization of schemes it would be necessary for them to take into account any existing suitable accommodation, and to consult other local authorities and bodies who might be interested.

Maternity Benefit.

Mr. Godfrey Locker-Lampson asked the Secretary to the Treasury whether there was any foundation for the statements made by lecturers on the National Insurance Act that in the case of the Post Office contributor class the right to maternity benefit like the right to medical benefit continued till the end of the calendar year, even though the funds to the depositor's credit were exhausted; and whether there was any foundation for the statement that maternity benefit would be paid to a deposit contributor without any time limit, even though his credit was exhausted.

Mr. Masterman answered that the maternity benefit of a deposit contributor was paid when it was due out of the sum standing at the time to his or her credit, and was limited to the amount of that sum. He was not aware that any statements to the contrary had been made by official lecturers.

Medical Expenses.

Mr. Cooper asked the Chancellor of the Exchequer (1) if the Government or the Insurance Commissioners had yet determined the amount to be paid to chemists for medicine, drugs, and appliances under the National Insurance Act; if so, what was the amount per insured person; and what was the definition of what a chemist had to supply for this sum; (2) if it was now the intention of the Government to allow, or if it had agreed to allow, doctors to do their own dispensing; and (3) if the proposed payment of 6s. per head of insured persons for medical attendance would be increased; would chemists still receive 1s. 6d. per head of insured persons; and would that sum be provided by the doctors or by the Insurance Fund.

Mr. Masterman said that questions connected with the administration of medical benefit were being considered in conference with the medical representatives on the Advisory Committee, and he could make no statement at present as to the result of these deliberations.

The Housing of the Working Classes Bill.

After all, the Government means this measure to be utilized in Grand Committee and made useful for amending their own Act.

After striking out the clauses which were objectionable, the Local Government Board this week proceeded to add an amendment enabling a local authority to use land for the erection of houses of a higher type than workmen's dwellings, and to sell and lease land on the approval of the Local Government Board. Mr. Keir Hardie wished to strike out power to sell land, but Sir Arthur Griffith-Boscawen opposed this view, and said the amendment would act beneficially by securing a mixture of varied classes of people in a given area. Mr. Burns strongly supported this view, and said there would be no chance of the department allowing sale or diversion of land unless it was clearly for the public benefit.

After further discussion the amendment was carried by 25 to 10. Later on Mr. Wedgwood, representing the extreme Land Reformers, moved the adjournment, and when this was opposed by Mr. H. Lewis and Sir A. Griffith-Boscawen, he characterized the proceedings as "a put up" job between the Government and the Opposition." The Committee was simply carrying out the wishes of the Conservatives under the cloak of a Liberal Government. Mr. Burns defended the action of the Government in amending the bill, and finally the motion for adjournment was withdrawn.

Clause 5, which gives power to acquire land in advance of requirements for the purposes of Parts I and II of the principal Act, as well as for housing, was then carried with Government amendments by 26 to 4. Clause 6, referring to the relaxation of by-laws, was under discussion when the Committee adjourned.

Clause 5 as passed provides that local authorities shall be empowered to purchase slum property as it comes into the market without giving any public notice. They will thus be able to buy at the market value. If this power had existed in the past a large expenditure on slum property would have been saved, and speculative purchases made with a view of resale to the local authority prevented.

The Poor Law (Ireland) Bill came on for second reading on May 10th. It was an appropriate subject to occupy the last day of the Home Rule week, but the excitement of Thursday over the second reading of the Home Rule Bill had evidently exhausted the House of Commons. The Poor Law Bill could not retain forty members in the Chamber, and the absence of a quorum, which lasted from half-past one to four, forced the House to adjourn without the bill being considered. Sir John Lonsdale and

Mr. Moore, who moved and seconded the second reading, were answered by Mr. Birrell, who pointed out the difficulty of undertaking Poor Law reform at the present time. Mr. John Dillon, speaking for the Nationalist party, accused the promoters of the bill of ignorance, and then the count came, and no more was done.

Hospital Ship.—Lord Charles Beresford asked the First Lord of the Admiralty whether he was aware that the Admiralty stated on March 16th, 1911, that a hospital ship would be built for the navy; that the sum of £8,000 was allocated for this ship last year; and that this year £68,000 had been allocated for this ship; would he say what amount of money had already been spent out of these two sums, giving the amounts separately; whether tenders had been called for and received; and whether he would state to the House the amount of the tender and the earliest date that this ship would be fully equipped to take her place in the fleet. Dr. Macnamara said it was the fact that it had been stated that a hospital ship would be built for the navy, that the sum of £8,000 was allocated for this ship last year, and that this year £68,000 had been allocated for this ship. So far no money had been spent. Tenders had been called for and received, but it was contrary to Admiralty practice to quote the amount of the tender. He was afraid he could not say when the ship would be equipped to take her place in the fleet.

Post Office Medical Officers.—In reply to Mr. Watt, the Postmaster-General said that Post Office medical officers, alike at Glasgow and elsewhere, were remunerated by a uniform capitation fee of 8s. 6d. per annum in respect of each member of the local staff placed under their charge, no distinction being made between picked lives and others. The remuneration thus calculated covered the supply of medicines, and all such ordinary medical treatment as was sought from a general practitioner besides periodical sanitary inspection of Post Office buildings, reporting on the physical or mental condition of all officers whose retirement was in question, or whose fitness for a particular duty might be in doubt, and, speaking generally, assisting the Postmaster-General with their professional knowledge, and performing such advisory functions as were necessary to the welfare of the Post Office staff.

Vaccination (Conscientious Objections).—Mr. King asked the Secretary of State for the Home Department whether his attention had been given to the practice of a certain bench of magistrates who had agreed that none of them would on any occasion sign the form for conscientious objection to vaccination if applied to individually; whether, in consequence, every conscientious objector was obliged to apply to the bench at sittings of the court, thus being obliged, in many cases, to travel long distances and to lose a day's wages; and whether he would inform clerks to justices that this practice was a breach of the spirit of the law, and was calculated to shake the confidence of the public in the administration of the law. Mr. McKenna replied in the affirmative, but said that he had no authority to give instructions to magistrates in this matter. He fully agreed that poor persons should be enabled to make these declarations without unnecessary expense or trouble, and he could not think that there were many magistrates who desired to refuse them facilities for this purpose.

Vaccination Rules in Madras Schools.—In reply to Mr. Keir Hardie, the Under Secretary of State for India stated under the regulations made by the Madras Education Department in regard to small-pox and vaccination for schools receiving grants-in-aid the amount of the grant-in-aid might be reduced by not more than 25 per cent. on account of certain specified defects, one of which was "the presence of pupils unprotected from small-pox." In the case of secondary schools no teacher who was not protected from small-pox might, without express sanction, be permanently employed in an aided institution; and in schools for boys and native Christian girls no pupil who was not protected from small-pox by vaccination or otherwise might be admitted.

The Care of the Feeble-Minded.—Last week the Home Secretary stated in reply to Mr. Alan Sykes that he hoped shortly to bring in a bill dealing with this subject.

THE INSURANCE SCHEME.

STATE SICKNESS INSURANCE COMMITTEE.

Eighth Meeting.

The eighth meeting of the State Sickness Insurance Committee was held on May 9th.

Mr. T. Jenner Verrall was in the chair, and the members present were: *England and Wales:* Dr. R. M. Beaton (London), Dr. John Brown (Bacup), Dr. T. M. Carter (Westbury-on-Trym), Mr. E. J. Domville (as Chairman of the Public Health Committee), Dr. S. Hodgson (Salford), Dr. R. E. Howell (Middlesbrough), Dr. Constance E. Long (London), Mr. James Neal (Birmingham), Dr. H. F. Oldham (Morecambe), Dr. E. O. Price (Bangor), Dr. Lauriston E. Shaw (London). Dr. W. Johnson Smyth (Bournemouth), Dr. D. G. Thomson (Thorpe, Norwich), Dr. D. F. Todd (Sunderland), Mr. E. B. Turner (London), Dr. A. H. Williams (Harrow on the Hill), Mr. D. J. Williams (Llanelly), Mr. E. H. Willock (Croydon). *Scotland:* Dr. J. Adams (Glasgow), Dr. Bruce Goff (Bothwell), Dr. R. McKenzie Johnson (Edinburgh), Dr. J. Munro Moir (Inverness). *Ireland:* Dr. Mark F. Cahill (Belfast), Dr. J. S. Darling (Lurgan), Dr. R. B. Mahon (Ballinrobe). *Ex Officio:* Dr. J. A. Macdonald (Chairman of Council), Dr. E. Rayner (Treasurer).

Apologies for absence for unavoidable reasons were received from the Chairman of Representative Meetings (Dr. E. J. Maclean), Miss Frances Ivens, M.S. (Liverpool), Dr. J. Pearse (Trowbridge), Dr. F. W. Kidd (Dublin), and Dr. R. A. Lyster (Winchester).

Minutes.

The minutes of the last meeting of the Committee held on April 25th were confirmed and signed by the Chairman as correct.

Chairman's Report to Central Council.

The Chairman reported that at its meeting on May 1st the Council had before it a report of all action taken by the Committee. Some members of the Council had, he stated, taken exception to the action of the Committee in issuing a supplementary pledge without submitting it to the Council, and in having selected members to act upon the Advisory Committee. The Chairman said that he had explained that the Committee deemed it essential in existing circumstances that it should take any necessary action itself and report thereon to the Council. This view had been accepted by the Council, which had approved the quarterly report of the Committee.

The Chairman also reported that the Council had referred to the Committee (1) a motion dealing with the question of the areas of Provisional Medical Committees, and (2) a report by the Hospitals Committee upon the question of the position of members of the medical staffs of voluntary hospitals. These matters, he said, would be brought before the Committee at its next meeting.

National Health Insurance Joint Committee.

The letter received from the Secretary of the National Health Insurance Joint Committee acknowledging the letter addressed to the Committee on behalf of the British Medical Association on April 26th was received. The letter, which was published in the Journal of May 4th, p. 1039, contained a statement to the effect that the Commissioners would be pleased to arrange a conference with the State Sickness Insurance Committee should circumstances arise which made it desirable for such a conference to be held.

The Chancellor of the Exchequer and the British Medical Association.

The Chairman reported that in view of the speech of the Chancellor of the Exchequer in the House of Commons on May 1st, 1912 (Supplement, May 4th, p. 425) he had instructed the Medical Secretary to address a letter to the *Times*, which had been published in that paper on May 2nd (Supplement, May 4th, p. 430). The Chairman also drew attention to the fact that the Chancellor of the Exchequer had since stated in the House of Commons that he had received three deputations from the Association, prior to

the introduction of the bill into Parliament. The Chairman read a detailed statement as to personal communications and interviews with the Chancellor of the Exchequer on behalf of the Association prior to the introduction of the bill. The substance of this statement is given in the JOURNAL of May 11th, page 1086. The action of the Chairman was approved.

REGULATIONS SUBCOMMITTEE.

The minutes of the meetings of the Regulations Subcommittee held on March 29th, April 2nd, and April 18th were received, and various recommendations bearing on principles which should be adopted in the regulations were discussed at length; it was agreed that in criticizing the draft regulations to be submitted by the Insurance Commissioners for the consideration of the Advisory Committee, the medical members of that Committee representative of the Association would keep the principles enunciated constantly in view.

JOINT INSURANCE ORGANIZATION AND REMUNERATION SUBCOMMITTEE.

The minutes of the meeting of this subcommittee held on April 25th and May 2nd were presented. The instructions of the committee were to consider the minutes of the Representative Meeting with regard to the organization of the profession failing the provision of adequate remuneration of medical practitioners and a fixing of a definite wage limit under the National Insurance Act, and for the organization in that event of a Public Medical Service to be administered by the medical profession in each insurance area.

The subcommittee had considered the following minutes of the Special Representative Meeting of February, 1912.

54. That the Council be instructed to take steps to organize the profession so as to secure that, failing the provision of adequate remuneration of medical practitioners and the fixing of a definite wage limit under the National Insurance Act, no medical practitioner shall give medical or surgical treatment to persons insured under the Act under a contract practice appointment held at lower rates than those which may be agreed upon as adequate by the Representative Body, after reference to the Divisions, for attendance upon insured persons, and that no contract practice be introduced into any district against the wishes of the majority of the members in that district. Further, after obtaining the adequate rate, the Representative Body shall insist that before any member of the profession can agree to accept work under a contract appointment, free choice of doctor by patient and of patient by doctor must be granted.

59. That the Council be instructed to direct the attention of Divisions to the desirability of preparing a scheme for a public medical service to be administered by the medical profession in each insurance area.

The subcommittee had accordingly prepared for submission to the State Sickness Insurance Committee two alternative schemes for a public medical service, one based on the capitation system of payment and the other upon the system of payment per attendance; each scheme provided for medical attendance and treatment on (*a*) persons insured under the National Insurance Act, and (*b*) persons not so insured. The reports led to considerable discussion, which was not concluded when the Committee had to pass to other business. The further discussion of the scheme was according postponed until the next meeting of the Committee.

MATERNITY BENEFIT AND OBSTETRIC INSTRUCTION.

It has already been reported that at its meeting on April 18th the Committee had a conference with the President and one of the honorary secretaries of the Obstetrical and Gynaecological Section of the Royal Society of Medicine with reference to the probable effect of the provisions as to maternity benefit contained in the Insurance Act and in certain of the model rules issued by the Insurance Commissioners upon the teaching of clinical midwifery. A Subcommittee, consisting of Dr. Maclean, Dr. Beaton, and Mr. Willock, was appointed to consider the matter further. It was empowered to consult with representatives of the Obstetrical and Gynaecological Section of the Royal Society of Medicine, and to obtain from the Insurance Commissioners any necessary explanation for its assistance in preparing a report on the subject.

SUPPLEMENTARY PLEDGE.

In response to an inquiry the Committee reported its opinion that the supplementary pledge applied in all cases of contributory contract medical appointments.

RESIGNATION OF CONTRACT APPOINTMENTS.

An inquiry from the honorary secretary of a Provisional Medical Committee as to the date at which the holders of certain contract appointments terminable at notices of one or two months should be sent in, should it be necessary to do so, was considered, and the Committee expressed the opinion that while it was desirable that all practitioners holding contract appointments should put their resignations in the hands of the Provisional Medical Committees, such committees should have regard to the wishes of the practitioners, and should not hand in any such resignations until the proper time was reached to ensure that the resignations should take effect synchroncusly with other resignations in respect of which it might be necessary to give longer notice. The object the Committee had in view, it was pointed out, was to ensure that, should resignation become necessary, all resignations should take effect at the same time—namely, in January, 1913.

RESIGNATION OF HOSPITAL APPOINTMENTS.

A communication was received from the Honorary Secretary of the Sunderland Provisional Medical Committee stating that while that committee approved of the action of the State Sickness Insurance Committee with regard to the resignation of contributory contract medical appointments, it had adopted the following resolution with reference to holders of voluntary hospital appointments:

> That it be a recommendation to the State Sickness Insurance Committee to immediately issue a form of notification of the provision of the supplementary pledge relating to the treatment of persons coming under the provisions of the National Insurance Act through any voluntary medical charity; this form of notification to be signed by the whole of the honorary and salaried staff of a charity on the one form, and the completed forms to be sent to the governing bodies of the charities involved at the discretion of the State Sickness Insurance Committee.

The Committee resolved to reply as follows:

> That the form of the supplementary pledge had received the very careful consideration of the committee, particularly with regard to the holders of voluntary hospital appointments, and that the committee cannot see any reason to alter the form of the pledge or issue a form of resignation of hospital appointments.

NEXT MEETING.

The next meeting of the Committee was fixed for Thursday, May 16th.

CONFERENCE WITH MEDICAL MEMBERS OF THE ADVISORY COMMITTEE.

In the evening an informal conference took place, with Dr. J. A. Macdonald in the chair, between the members of the State Sickness Insurance Committee, and some of the medical members of the Advisory Committee not nominated by the Association. In the absence of the detailed agenda paper for the meeting of the Advisory Committee a general conversation took place during the course of which the attitude of the Association as expressed by the State Sickness Insurance Committee with the approval of the Council was explained.

AT a meeting of the Nursing Division of the Bolton Corps of the St. John Ambulance Brigade on May 8th, Dr. J. Johnston was presented with an inscribed silver inkstand, in acknowledgement of his services to those who attended his lectures last winter on first aid and nursing work.

THE allotment of the Florence Nightingale memorial annuities has been entrusted to the Trained Nurses' Annuity Fund. The fund now invites applications from disabled trained nurses for these annuities, which it is expected will be each of the value of 10s. a week. The names of all suitable applicants, whether successful or not, will be recorded, and if they are eligible will be considered when a vacancy occurs among the annuities of the fund. Regulations and forms of application can be obtained on application by letter only to the Honorary Secretary, Trained Nurses' Annuity Fund, 73, Cheapside, London, E.C.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

BIRMINGHAM.

Presentation to Dr. Robert Saundby.

At the General Hospital, Birmingham, on May 9th, a presentation was made to Dr. Robert Saundby on his retirement from the position of senior honorary physician, in recognition of his great services as honorary physician for the past twenty-seven years. The Right Hon. the Lord Mayor of Birmingham, vice-president of the hospital, was in the chair, and a large number of the governors and of the medical and nursing staffs of the hospital were present. The chairman of the Presentation Committee, Mr. J. C. Vaudrey, presented a portrait of Dr. Saundby, to be hung in the board room of the hospital, on behalf of the ninety-five governors. The portrait, which was accepted by the Lord Mayor on behalf of the hospital, is a most excellent one, and represents Dr. Saundby in his robes as Doctor of Medicine, wearing the badge of the Presidency of the British Medical Association. The portrait has been painted by Mr. Frank W. Carter. Sir Robert Simon, senior physician to the hospital, asked the Lord Mayor to present to Dr. Saundby a gift of a silver gilt rose bowl and an illuminated address with a list of the subscribers. He spoke of the long and valuable services Dr. Saundby had rendered to the hospital, not only to the patients under his care, but also to the members of the medical staff. Dr. Saundby had always been a strong personality in the direction of the affairs of the hospital, and it was his splendid example, his high professional attainments, and his untiring energy that had helped so much to maintain and advance the reputation of the hospital. The Lord Mayor, in making the presentation, expressed the regret felt by all connected with the hospital that Dr. Saundby had given up his post as honorary physician, but added that they were glad to know that it did not mean his retirement from private practice. The silver gilt rose bowl was a copy of one in the collection of Louis XV, and the address was written and illuminated by Mr. E. Treglown, of the Birmingham Municipal School of Art, with borders of naturalistic ornament. It contained sketches of the old hospital in Summer Lane, and of the present hospital, in proper colour, signed by the ninety-five subscribers to the special fund, and bound in Niger leather with gold tooling by Mr. F. Garrett.

Dr. Saundby, who was loudly applauded on rising to reply, said it was difficult to find suitable words to express thanks for the honour which had been done him, and for the unvarying kindness he had received during the past thirty-six years. He spoke of the many changes he had seen in the institution and of its present honourable position. There was one aspect of the changes which he wished to refer to, and that was the different spirit in which every member of the staff now devoted himself to the work of the hospital. It was not as merely something to which he could give time he could spare from his private practice, but as the first and main call upon his time, strength, and energy. The demands were enormously greater than thirty or forty years ago; yet the response had been equal to it. At present the hospital had a staff of which it might justly be proud. They were training a set of young men who would worthily fill the places of the senior members when they had to retire. There was nothing he had more at heart than the success of the hospital, and he was confident that its future could not be in more capable hands. He thanked them most sincerely for the presentation which had just been made to him and for the opportunities and advantages he had received by being connected with the General Hospital.

A necklace of gold and silver, set with emeralds and pearls, designed by Mrs. G. C. Gaskin, was presented to Mrs. Saundby. Sir John C. Holder, Chairman of the House Committee, in making the presentation, said how very great had been her help to Dr. Saundby in his work, and also how much her services on the Samaritan Fund were appreciated. Mrs. Saundby returned thanks in a charming little speech, and said she was proud to know that her husband's portrait would hang in the board room of the hospital.

The proceedings terminated with a vote of thanks to the Lord Mayor for presiding.

LONDON.

London County Council.

The Annual Estimates.

The London County Council on May 14th spent the greater part of the session in considering the annual estimates of expenditure of a number of its committees. Estimates were approved in respect of asylum maintenance amounting to £269,651, and some discussion took place as to whether the sum—£50,000—allotted to upkeep of buildings was adequate to meet the requirements of the Lunacy Commissioners and the Home Office. In particular, the suggestion was made that the duties of the medical officers would be lightened if the telephone systems at some of the asylums, installed nearly thirty years ago, were improved. An estimate of £705 was passed to meet the cost to the Council of the administration of the Midwives Act, 1902, and the estimates of the Public Health Committee, amounting to £109,854, were approved without any discussion. From the latter estimates it appeared that the examination of samples of milk cost £2,855 a year, and the administration of the various Dairies, Cowsheds, and Milkshops Orders, £2,300.

Delay in Providing an Ambulance Service.

The General Purposes Committee had set down an item of £100 as "provision money" to meet any expenditure to which the Council might be put during the year in the preparation of a scheme for providing an ambulance service for London.

Mr. A. Wilson inquired what steps had been taken since the passing of the Metropolitan Ambulances Act, 1909, to organize this much desired service.

The Chairman having ruled, under advice from the Clerk, that an item of "provision money" could not be discussed,

Mr. H. L. Jephson moved the adjournment of the Council. He had, he said, been put off with various indefinite replies since February, 1910. When asked whether he would bring up a report in time for a sum to be included in the estimates for 1912–13, the Chairman said: "I am unable to pledge the Committee to bring up a report by a given date, but provision has been made in the estimates for any expenditure likely to be made during the current year." The only provision was the item of £100. A committee ought not to stand between the Council and the discussion of a very important question. There were 17,000 people injured every year, and about 300 killed, through accidents in the streets of London. Parliament had had the matter under consideration and had declined to pass Mr. Peel's bill making the Metropolitan Asylums Board responsible, and had passed instead Sir William Collins's bill which made the London County Council the ambulance authority for London.

Mr. H. J. Greenwood, Chairman of the Committee, said he was quite prepared to admit that, owing to circumstances over which he had no control, it had not been possible to keep his word and bring up a report in time for the estimates. The question was one of great magnitude, and not one on which the Council would wish to embark without making exhaustive inquiries on the working of ambulances throughout London. This had taken a considerable time, but it could not be said that the committee desired either to burke the question or postpone its consideration.

The motion for the adjournment was lost, and the estimate was then approved.

Pressure on Asylum Accommodation.

Mr. A. Wilson asked the Chairman of the Asylums Committee whether he was aware of the existence of a circular letter sent by the County Council to the boards of guardians stating that there were no vacancies in the county asylums for persons certified as insane. Was he aware that this was causing overcrowding in the observation wards of infirmaries, and what steps were being taken to obviate this?

Mr. Goodrich, the Chairman, replied that though there

had been within the last few days a scarcity of places for male patients, no case of lunacy had been kept waiting for more than six days. He was informed that no authority had more than 3 cases waiting. The committee had already taken steps to obtain contracts with out-county asylums, and it was expected that the temporary pressure would shortly be relieved.

An Insanitary Area at Bethnal Green.

Mr. Edward Smith asked the Chairman of the Housing Committee whether the Council had received urgent representations from the metropolitan borough of Bethnal Green, through its medical officer, asking that the Council would deal with the insanitary area known as the Brady Street district, where, according to the medical officer, there were 528 houses, mostly unfit for human habitation, accommodating 3,058 persons. The death-rate for the area was 25 per 1,000, against 17 for the whole of Bethnal Green. The incidence of zymotic diseases was 4.4 per 1,000 against 1.7 for the whole of Bethnal Green; of tuberculous diseases 3.7 against 2.0; of diseases of the respiratory organs 6.3 against 3.8 for the whole borough. The number of deaths from these causes was double that of the whole borough. Would the committee consider the area with a view to an improvement scheme?

The Chairman promised a report on the subject as soon as possible.

The Reorganization of the Public Health Service.

The General Purposes Committee reported as to the amendment of the designations of several of the principal officers consequent on the fusion of the general and education branches of the public health department, and the appointment of a deputy medical officer of health and school medical officer.[1] The committee proposed that Dr. J. Kerr, the medical officer (education), should be styled in future "medical research officer," and it understood that Dr. Kerr considered this title appropriate. Dr. C. J. Thomas and Dr. W. McC. Wanklyn were now styled "assistant medical officers." This designation should remain unchanged, but it should also be applied to the part-time officers now styled "assistant medical officers (education)." The officials concerned offered no observations on the suggested alteration of their designation.

The Council approved these recommendations.

The Coroner for the South-Western District.

The Council appointed Mr. S. Ingleby Oddie, M.B., C.M.Edin., to be coroner for the South-Western District of London at a salary of £1,150 a year.[2] The suggestion was made that the Council would be following the precedent established in the case of the appointment of a successor to the late Dr. Danford Thomas if it appointed Mr. R. Henslowe Wellington, who has acted as deputy to Mr. Troutbeck, but the Chairman of the Public Control Committee recommended Mr. Oddie as a candidate of exceptional merit, and the Council came to a unanimous decision.

Mr. Oddie attended and signed the declaration on taking office. In reply to the congratulations of the chairman, Lord Cheylesmore, he said the coronership was one for which he had tried to qualify himself for many years, and he hoped the experience he had gained as a deputy coroner, a barrister, and a medical man would help him to carry out the duties to the satisfaction of the Council and of the public whom he would be serving.

SOUTH WALES AND MONMOUTHSHIRE.

Treatment of Phthisis.

Some important advances were made last week in the direction of interesting public bodies in the sanatorium treatment of tuberculosis. A deputation of the National Memorial Committee, with Mr. David Davies, M.P., as spokesman, laid before several committees the suggested scheme. This scheme has three factors, namely:

1. An educational propaganda from the preventive point of view.

2. The establishment of tuberculosis dispensaries and hospitals.

3. The provision of sanatoriums, one in South Wales with 250 beds, and one in North Wales with 100.

Chronic and incurable cases would not receive treatment in sanatoriums, but would be dealt with in the dispensaries. The Memorial Association would provide the capital expenditure, while the Insurance Committees and local authorities would be responsible for the maintenance. The Memorial Association would be composed of representatives of county councils and county borough councils in proportion to population, and the Insurance Committees would also have representation. It was estimated that for the first year in Wales and Monmouthshire £47,000 would be available for sanatorium treatment. This would not be enough, and it was thought probable that a ½d. rate would be necessary in order to provide sufficient funds. An amount equal to the ½d. rate would be contributed by the Treasury.

The scheme, as explained by Mr. David Davies, has met with approval in Cardiff, Merthyr, and the county of Monmouth, and the deputation will continue its work in the near future.

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

Irish Asylums.

The deputation appointed by the recent conference of representatives of Irish district asylums, and asked to lay before the Treasury the facts in connexion with the failure of the Irish Local Taxation Account to discharge its liability for payment of the grants in aid of lunatics in Irish asylums, had an interview with the Financial Secretary of the Treasury at the House of Commons last week. In the Journal for April 27th a short account of the conference was given. The following is a brief review of the facts as they were explained to the Financial Secretary.

In 1874 the Chancellor of the Exchequer asked Parliament to sanction a grant of 4s. a week in aid of the maintenance of pauper lunatics. Parliament consented, and the grant was paid in full with regard to Irish asylums up to the end of the year 1908. In 1898, on the passage of the Local Government (Ireland) Act the Chancellor of the Exchequer, in spite of strong protests from the Irish members, allocated certain items of Imperial revenue to a Local Taxation (Ireland) Account to meet the grant in aid of pauper lunatics, hitherto paid out of the Consolidated Fund. The Chancellor maintained that he was making generous provision, but seems to have omitted to provide for the extra cost which the transference of all lunatics from workhouses to asylums would entail on local taxpayers, although this transference was ordered to be made under the Act. In addition, this responsibility placed the Local Taxation (Ireland) Account in a condition of bankruptcy from the start. For the past three years this account has failed to meet its liabilities with respect to the grant in aid for lunatics, and now owes the local bodies the sum of £82,000 under this head alone. The circumstances which led Parliament to make this grant in aid in 1874 exist now in a greatly aggravated measure. In 1869 Mr. Gladstone estimated that the cost of maintaining lunatics in Ireland would ultimately reach £200,000; the actual cost last year was £580,135. In 1870 the proportion of lunatics in 100,000 of the population was 189, in 1910 that figure had increased to 558. The asylum authorities in Ireland, in the absence of any declaration from Parliament that the obligations assumed in 1874 have ceased to exist, regard the sum claimed by them as a debt of honour due to them by the Imperial Parliament. The Financial Secretary asked for further information on several points, and said he would call for information from his department at once, and, after consideration of the case, would reply to the deputation at the earliest possible moment.

Irish Creameries and Dairy Produce Bill.

The Irish Creameries and Dairy Produce Bill, introduced in the House of Lords, provides that from January 1st, 1913, the term "creamery," if applied to Irish butter, is to be taken as a trade description signifying that the butter has been manufactured in a creamery registered under the Act. It provides also for the keeping of a register of all creameries and cream separating stations registered under the Act by the

[1] British Medical Journal, vol. ii, 1911, p. 243.
[2] British Medical Journal, May 11th, p. 1099.

Department of Agriculture for Ireland. The Department shall not register any premises as a creamery or cream-separating station unless it is satisfied that the premises are suitable as regards cleanliness, freedom from liability to contamination, adequate supply of pure water, and efficient machinery. Butter is to be made only from cream separated on the premises or obtained from another registered creamery or cream-separating station. The Department would have power to remove any premises from the register. Any person who knowingly supplied or accepted unclean milk for use in a creamery would be liable to a fine. Any officer of the Department would have power to enter at all reasonable times (*a*) any premises registered under the Act; (*b*) any other premises in Ireland at which milk supplied by two or more suppliers was used for the manufacture of butter, cream, or other articles of dairy produce for sale; and to inspect any process of manufacture or treatment used therein, and to take samples of any butter, milk, or cream. Further, if the Department had reason to believe that at, or in connexion with, any premises in Ireland other than premises which an officer has power to enter under the above section, an offence under the Act has been committed, or that the term "creamery" has been falsely applied to butter manufactured, sold, or consigned in or from the premises, the Department may specially authorize any officer of the Department to enter the premises, when he shall have power of entry, inspection, and sampling.

Poor Law Reform.

The reform of the Irish Poor Law has again been postponed for an indefinite period. When the bill mentioned in last week's JOURNAL came up for second reading in the House of Commons on May 10th the Chief Secretary for Ireland announced the Government's inability to do anything, and the House was "counted out." The urgent need of Poor Law reform in Ireland is universally admitted, and two Commissions have established it in reports which constitute a scathing indictment of the existing system. The present Chief Secretary since his appointment has always professed to recognize the urgency of the Poor Law question. It was recognized by its promoters that the bill in question was not perfect and that many difficulties would arise, but it was capable of amendment; they felt that it would at least be a beginning, and would formulate in a definite way the problems that must be solved. The main objection urged by the Chief Secretary was that the recent Viceregal Commission recommended that the rateable area for Poor Law charges should be the county instead of the union, and that the wealthier unions would resist this proposal, and therefore the scheme must fail.

Emigration.

The emigration returns for the past month show, as compared with the same month of last year, a welcome decrease of over 1,600. This is a particularly important index of the decline in the flow of emigration in view of the fact that April is the month when the number of emigrants is usually greatest. Still, the total number of persons who left Ireland last month was 5,600. The bulk of these, over 4,500, went to swell the numbers of town-dwellers of the United States; nearly 1,000 were recruited from the agricultural class, and sailed for Canada in the hope of better farming prospects. In connexion with this question of emigration the figures issued by the Registrar-General in the census returns for Galway County are of interest. The number of emigrants from this county alone during the last ten years was 26,464, almost exactly one-seventh of the present population of the county, while during the past sixty years over a quarter of a million emigrants have left the county. In the case of Queen's County the numbers are smaller, 2,542 in the last ten years, about one-eighteenth of the entire population, and 59,206 during the last sixty years.

Cork Branch of the National Association for Prevention of Consumption.

The final meeting of the Executive of the Cork Branch of the National Association for Prevention of Consumption was held on May 4th. It was decided to wind up the branch, mainly because the Women's National Health Association of Ireland has in recent years been doing the work which had been begun under the National Association's auspices, and further, because under the Insurance Act Government is making provisions for the treatment of consumption by sanatoriums, dispensaries, etc. The association had a sum of £106 to its credit, and it was decided that as the Cork Branch of the Women's National Health Association was in need of funds for the payment of the tuberculosis nurse who has been doing good work amongst the poor consumptives in the city, a sum of £50 should be handed over to that association and the further sum of £50 sent to Her Excellency the Countess of Aberdeen, President of the Association, to be devoted to the wants of the county or in any other way Her Excellency should think fit in the antituberculosis movement.

The University of Belfast.

Two ladies—the Misses Riddel—whose generosity has already provided the university with the valuable studentship in pathology and bacteriology, have again come forward to meet a great want in this institution. A large number of female students have entered each year, and, having completed their course of study in the arts, science, and medical faculties, have graduated, many with high distinction. The Misses Riddel, believing that there is a great necessity for a hall of residence near the university for young Protestant girls coming from the country, have now placed in the hands of trustees until a proper governing body is established £25,000 for the erection and establishment of such a hall and subsequent partial endowment.

As there are many lady medical students in the university this will be of great interest and pleasure to the medical school. These ladies have recently petitioned the board of management of the Royal Victoria Hospital to be allowed to enter as resident pupils; their application has received the cordial imprimatur of the visiting medical staff, and every effort will no doubt be made by the board to provide suitable accommodation, although at present it presents many difficulties.

Correspondence.

APPENDICITIS—AND QUICKNESS.

SIR,—I am glad that Mr. Owen has thrown the weight of his opinion into the scale in favour of early operation in every case of acute appendicitis. In America this principle is accepted almost universally, but in this country the hereditary teaching of so-called conservative surgery has hitherto prevented medical opinion being unanimous on this point.

The arguments used by opponents of early operation are contrary to the experience of the operation theatre, and I think that Dr. F. J. Dixon's criticism of Mr. Owen, which appeared in your issue of May 11th, should not pass unnoticed. Consideration of space forbids my dealing with all Dr. Dixon's statements, so I will refer to three only.

Dr. Dixon says that it is "often better, in the general interest, to take a *little* risk by waiting than to subject a great number of patients to unnecessary operation." This simple statement contains two false premisses. For, in the first place, the risk in waiting is *not* little but *great*, and, secondly, granted that a patient has appendicitis, operation is never unnecessary. The only question arguable is not *whether* but *when* an operation should be performed.

Our old beliefs must be revised in the light of modern operative experience. We know now that the much-talked-of protective "walling off" of the diseased appendix is often conspicuous by its absence, and, further, that after a severe attack of appendicitis the appendix is not, as was formerly taught, destroyed, but more often persists, and frequently gives rise to serious trouble at a subsequent date.

No patient who has had an attack of appendicitis is safe until the offending member has been removed. There is, therefore, no question of submitting a great many patients to unnecessary operations. It is true that immediate operation may not be necessary in all instances; many patients get well without operation, but it is equally true that many die who might have been saved by early surgical treatment; and as it is absolutely impossible to say in which case operation is imperative, and in which case it is not, the only safe course is immediate operation in every case. If this principle were acted upon, acute appendicitis

would cease to be a "source of anxiety to the general practitioner."

In surgery our aim should be to take no chances; to procrastinate in the presence of acute appendicitis is hazarding the patient's life unjustifiably.

Dr. Dixon says that each case should be judged on its merits. This high-sounding phrase has a pleasant ring, but in practice such teaching has deadly results. So long as it is acted upon, so long will continue the annual sacrifice of life from this disease. As Dr. J. B. Murphy pithily remarks, "We should have no deaths from appendicitis, but we are having them."

More than 1,500 deaths occur every year from appendicitis in England and Wales, and it is no exaggeration to say that the great majority of these deaths ought not to occur, and would not occur were it recognized that no clinical acumen can tell what is happening in any given case or can prophesy what may occur within the next few days. If this be true—and I imagine that few would venture to deny it—then it seems to me to be flying in the face of Providence to delay operation.

Dr. Dixon suggests that we should wait to see if there be "subsidence of the constitutional symptoms which themselves begin to threaten the life of the patient." I maintain that if we wait till the constitutional symptoms begin to threaten life we have already waited far too long.

In an article published last year on the "Hidden Dangers of Appendicitis,"[1] I detailed several cases similar to the one related by Mr. Owen, in which the local and constitutional symptoms gave no indication whatever of the serious condition inside the abdomen. Such cases are by no means rare. My experience more and more confirms me in the belief that in acute appendicitis the symptoms are so deceptive, the signs of danger so slight, and the ultimate issue so uncertain, that clinical observation, the living pathology of the disease, and the results obtained by the surgery of to-day point most emphatically to early operation in every case as the only safe treatment.—I am, etc.,

London, W., May 14th. HERBERT J. PATERSON.

GREEN URINE DUE TO A PROPRIETARY PILL.

SIR,—The following facts are interesting in view of the communication of Drs. Golla and Rolleston in the JOURNAL of May 11th. On April 24th, a maid of one of my patients was brought to me. She was alarmed at passing urine of a bluish-green colour. She denied having taken any medicine or pills whatever, nor had she eaten any sweets. I informed her mistress that, in my opinion, the maid had somehow been taking methylene blue. A few days later I heard from the mistress that some pills, De Witt's, had been left in the letter-box, but that the girl denied having taken any. This statement the girl herself stoutly maintained to me when she again visited me about ten days after her first visit, the urine meanwhile having cleared.

I have no doubt De Witt's "kidney and bladder" pills were in this case also the cause of the colour in the urine.—I am, etc.,

London, W., May 14th. A. J. RICE-OXLEY, M.D., M.R.C.P.

SIR,—I was much interested in Dr. Rolleston's account of his patient passing "green urine." A week ago I had a similar case of a woman, aged 23, who had taken several of these same "De Witt's" pills. I could find no sign of illness, but examined the water and found it of a bright green colour. I thought it might have been artificially coloured, but I made her pass some while in the house. No sugar, no albumen, and no deposit of any kind. It struck me it might have been caused by methylene blue.—I am, etc.,

Tottenham, N., May 11th. W. H. PLAISTER.

THE NATIONAL MEDICAL UNION.

SIR,—A manifesto has been issued by the chairman and secretaries of the National Medical Union in the name of the union, but without submission to the members of the union for their approval or disapproval. This manifesto is already spoken of by the lay press as a "Union Onslaught on the B.M.A."

The folly of a policy of attempting to accentuate differences in the profession instead of drawing closer the bonds of union at a point of our campaign so soon after the delivery of our *unanimous ultimatum* to the Government is too transparent.

As one who took part in the mass meetings of Manchester and London, as a result of which the union was formed with the *avowed object* of uniting the rank and file and strengthening the hands of the members of the British Medical Association, I feel it my duty to at once dissociate myself *in toto* from the tactics now adopted by a small circle in the name of the National Medical Union, and to acquaint my fellow practitioners that I have resigned my membership of that union.

With your permission I hope to be able to give my reasons more fully in a subsequent issue.—I am, etc.,

Manchester, May 14th. T. ARTHUR HELME.

THE FUTURE OF GENERAL PRACTICE.

SIR,—As a general practitioner I was much interested in Dr. Major Greenwood's letter. He quite correctly, I think, foresees that all tuberculous disease in the future, and certainly consumption in the immediate future, will become an institutionally-treated disease, as scarlet fever, enteric fever, etc., are to-day, and for the same reasons—namely, that consumption is a microbic disease and highly infective. It therefore calls for segregation, and no argument based on monetary advantage or disadvantage to the medical profession will have any weight.

I cannot, on the other hand, agree that we have any cure at present for tuberculous disease. Sanatoriums are not; tuberculin is not at present, although I think it is on the right lines. Still, neither of these are cures, in my experience—and I am unfortunately of a phthisical stock, and know. So that segregation I regard as of the highest value in stamping out this disease. Therefore notify and remove them.

As for charging fees over a long illness, are we not, by taking up this position, saying, "Your money and your life"?—for we know we shall never cure the man. I am astonished at Dr. Major Greenwood taking up such a position.—I am, etc.,

Dumfries, May 11th. JAMES COOK, M.B.

THE FINANCES OF THE ASSOCIATION.

SIR,—The number of candidates in the field for seats on the Council of the Association is an indication that the members are not yet satisfied that their interests are cared for by the present officials. If any justification were necessary for the widespread opposition to the councillors seeking re-election, the financial report in last Friday's JOURNAL furnishes it—a more grave statement can scarcely be imagined. And it is a matter of amazement that any Representative of his constituents who had any share in bringing the Association to such a pass should have the temerity to *offer* himself for election! Those of us who have watched carefully the extravagance of the Medical Secretary's department—the wanton waste of money upon worthless literature, the silly extension of the "Division" schemes, small areas ruled by a tiny coterie of officials—are not in the least surprised at our present dangerous position. It must be altered. How is it our "laws" are so involved that no one inside the Association can decide what power, *if any*, a general meeting has. The only hope of reinstating the Association, of placing it on a sound financial basis, and making it of real use to the part of the profession it represents, is to simplify its constitution; and this can only be done by changing its officials. The Medical Secretary's department must be closed, and I trust Mr. Edmund Owen's suggestion that it should be will be determined at the approaching annual meeting.

Every means will be carefully thought out to prevent a repetition of the Birmingham fiasco; there shall be no repetition of the action adopted by the Chairman on re-opening the so-called Representative Meeting, after the hurried termination of the Annual General Meeting, when he, in a manner in my mind approaching rudeness, prevented Dr. John Haddon from speaking. Others—I amongst them—had something to say; we shall not again submit to the closure by one man.

A resolution will be proposed in Liverpool to instruct the Council or so-called Representative Meeting to close the Medical Secretary's department forthwith, and another to instruct those to whom such a function belongs to take

[1] *Lancet*, May 13th, 1911.

steps forthwith to so alter the laws of the Association that the "shareholders" can use the funds of the Association as determined in a duly constituted general meeting.

What is the necessity for the spending of £67,000 in a year? What have we had for it?—I am, etc.,

Old Trafford, May 14th. JAS. BRASSEY BRIERLEY.

POOR LAW GUARDIANS AND PUBLIC APPOINTMENTS.

SIR,—Ever since domiciliary visits by the public vaccinator were instituted by the Act of 1898 there has been a considerable amount of discontent amongst the medical practitioners of this country. They have felt it an injustice that an official who is usually in general practice in the district and not a whole-time officer, should in this way obtain an introduction to their private patients. Medical practitioners have naturally felt that such an arrangement is unsatisfactory to themselves, and, further, that it is certain that were the parents of infants allowed free choice of doctor, the percentage of infants vaccinated would be increased, inasmuch as parents prefer to have their children vaccinated by the family doctor. This "free choice of doctor" for vaccination is the accepted policy of the British Medical Association, and the grievances of medical practitioners upon this point are well known to boards of guardians.

Under these circumstances the public may be surprised to learn of the recent autocratic and high-handed procedure of the Salford Board of Guardians—a procedure undoubtedly inimical to the interests of the public and the medical profession.

The executive of the Broughton Medical Union, a union which represents all the practitioners in the district, having heard recently that the appointment of public vaccinator for the district had become vacant through the resignation of the incumbent, wrote to the Salford Board of Guardians, asking them if this were the case, and, if so, to receive a deputation from the Broughton Medical Union before they proceeded to advertise the appointment. A reply was received stating that the board of guardians did not propose to advertise the appointment.

Feeling that it was contrary to the public interest that a valuable appointment should be made without any advertisement, and doubting the legality of such a procedure, a communication was sent to the Local Government Board. A reply was received stating that advertisement was not necessary.

A letter of protest against their proposed action was sent to the Salford Board of Guardians. The guardians, however, proceeded to appoint a public vaccinator for the Broughton district. Whilst it must be admitted their action was strictly within their legal rights, the executive of the Broughton Medical Union has been instructed to protest against it in the press. It does so upon the following grounds:

(*a*) That it is in the public interest that all such public appointments should be advertised in order to prevent any possibility of jobbery.

(*b*) That upon former occasions the Salford Board of Guardians have advertised this appointment.

(*c*) That it was a most remarkable line of action to be taken at a meeting of a board of guardians, several of whose members had been defeated at the polls, and before the newly-elected members had taken office.

(*d*) That their action was most discourteous to an organization representing the medical practitioners of the district affected, and who are also their constituents.

(*e*) That there was no urgency in the matter, and that their action in proceeding to make the appointment without any advertisement, after they had been asked to receive a deputation, was contrary to the public interest.

The Broughton Medical Union, while severely criticizing the method adopted by the guardians in making the appointment, does not wish to cast any reflection upon the gentleman appointed.—I am, etc.,

R. B. FLETCHER, M.D.,

May 13th. Honorary Secretary, Broughton Medical Union.

"A HUGE REVENUE THREATENED."

SIR,—In your reference to an article contributed to the *Newspaper Owner*, under the heading "A Huge Revenue Threatened," you rather seem to favour the impression that the *Newspaper Owner* is opposed to any legislation that might have the effect of curtailing newspaper advertisement revenue, whatever the nature of the advertisements paid for may be.

This is not so. The *Newspaper Owner* is strongly opposed to the publication by newspapers of swindling announcements of any kind, and has emphasized this point in its columns on hundreds of occasions during the past fourteen years. It has always drawn a distinct line between ordinary proprietary articles, such as foods, etc., and what are known as secret remedies; and in the latter connexion has reproduced, with endorsement, much of what the BRITISH MEDICAL JOURNAL has had to say, as well as the analyses made for the British Medical Association, and published under the heading *Secret Remedies: What they Cost and what they Contain*.

On the other hand, the *Newspaper Owner* does not want to see newspaper proprietors deprived of legitimate advertising revenue, which might easily be the case if all proprietary articles, useful and useless, were dealt with legislatively on the same basis.—I am, etc.,

THE EDITOR, "NEWSPAPER OWNER."

London, E.C., May 14th.

Medico-Legal.

STATUS OF MEDICAL DEFENCE SOCIETIES.

THE Court of Appeal heard on May 7th an application from the London and Counties Medical Protection Society praying for the setting aside of an Order made against the society by Mr. Justice Bucknill in chambers on April 26th. Such Order directed the society, its servants, and its agents, to desist and refrain from "unlawfully maintaining" one of the parties to a certain action already commenced in the High Court, until after its trial or until further orders. The circumstances originating that action occurred in September, 1911, and on November 6th, 1911, a Master directed that it should be heard at the next Bedford Assizes (commencing May 31st, 1912); but the writ claiming the restraining order was not issued until April 22nd, 1912.

When the appeal was heard, counsel (instructed on behalf of the society by Messrs. Le Brasseur and Oakley) stated that the appellant society was one incorporated about twenty years ago as a company limited by a guarantee, and that leading medical practitioners were interested in it. One of its objects was to indemnify wholly or in part those who were members of it in regard to actions, proceedings, claims or demands, made by or against them, or in any wise affecting their professional character or interests. It was also an object of the society to indemnify its members against costs which might be given against any of them as the result of any legal proceedings of the kind indicated, and similarly against any damages in which they might be cast. In pursuance of its duties towards its members, the society had undertaken to prosecute a case on behalf of one of them, and the question now at issue was whether that action of the society amounted to maintenance.

The case was one between two medical men, and involved questions of professional misconduct. The appellant society had endeavoured to get the case settled by arbitration, but such arbitration had been refused by the defendant. The result was that the case was going into court, and the appellant society admitted that it was now conducting the plaintiff's side of it. The defendant, who was the respondent in the appeal, now sought to restrain the society from performing work which it had contracted to perform with its members, this being work for which provision was made in its articles of association. No order such as that which had been issued against it could rightly be imposed upon the society unless the person who applied for it had fulfilled certain conditions. He must make his application promptly, and also must show that the loss in which he might be involved by the absence of the order was something serious which could not be compensated for in damages. Mr. Justice Bucknill had granted the application for the order on the ground that the application must be governed by a previous case. As a matter of fact, however, the respondent had not fulfilled any of the conditions which would justify an order being granted to him.

Counsel on behalf of the respondent argued that there was no reason to set Mr. Justice Bucknill's order aside. As regards the delay which had occurred in asking for it, the action to which it related was one in which no one other than the parties themselves could be interested. Moreover, the order interfered with that action only so long as the behaviour of the appellants amounted to maintenance. Strong grounds for holding that the appellants were guilty of such maintenance had been adduced. The affidavits in the matter showed that the plaintiff in the action was not anxious to protect his own interests thereby, because he said he did not care whether he won or whether he lost. It was clear that the action would not have been brought at all were it not for the fact that the plaintiff was maintained by the appellant, and that in default of the aid or assistance of the appellant the action would be dropped. Hence counsel asked the court to hold that the appellant society was doing what it had no right to do, and to refuse its request that the order should be set aside.

In the event the court, consisting of three Lords of Appeal,

decided unanimously that the appeal must be granted and the order set aside. The facts to which attention had been directed did not of themselves show that there had been maintenance, but only that maintenance might be inferred as a *prima facie* conclusion. Hence the issue of an order was not justified by them. It was very likely that when the memorandum and articles of association relating to the society were examined it would be found that no offence of maintenance had been made out.

SECRET REMEDIES.

AT the North London Police Court on May 8th the Excise authorities proceeded against John James Huggins and George Douglas Buchanan, who had traded as Jap and Co. at Isledon Road, Holloway, for selling dutiable medicines—namely, Jap's Pills and Jap's Balm—unstamped and without a licence. The case was before the court some weeks ago (BRITISH MEDICAL JOURNAL, April 27th, p. 985) and dismissed on the technical objection that the defendants had been jointly summoned, though then Mr. Hedderwick, the magistrate, offered to deal with the matter by imposing one penalty only on Mr. Huggins. The latter objected, as he could not come to any arrangement with his co-defendant. The circumstances were then fully reported. Now both the defendants, through Mr. C. H. Nash, their solicitor, pleaded guilty, and Mr. Hedderwick ordered each defendant to pay £15, or one month's imprisonment.

Alice Dane, a general shop keeper, of Isledon Road, Holloway, was ordered to pay 4s. costs for exposing these medicines for sale without a licence and unstamped. In this case no conviction was recorded.

PUBLIC VACCINATORS NOT ENTITLED TO SUPERANNUATION.

THE question has often been asked, Are public vaccinators entitled to superannuation under the Poor Law Officers' Superannuation Act, 1896?

Until April 30th this question had not been tested in the law courts. On that day an action was brought in the Chancery Division by Dr. Lawson of Avebury, Marlborough, against the guardians of the Marlborough Union, claiming superannuation allowance on his vaccination emoluments. In September, 1911, he resigned his appointments as district medical officer and public vaccinator on account of permanent bodily infirmity. After legal arguments on the import of various enactments, Mr. Justice Neville held that the plaintiff as public vaccinator was not a person in the employ of the defendants within the meaning of the Act of 1896. Under his contract with them for the office of public vaccinator he was in the position of a person who had contracted with them to render certain services for certain payments, and was not a person who had entered into an engagement of service. He was, therefore, not entitled to include his fees as public vaccinator as part of the emoluments on which the amount of his superannuation allowance ought to be calculated.

The parties then agreed that the superannuation allowance of the plaintiff as district medical officer at £37 17s. 6d., should commence from October 1st, 1911, and that there should be no order as to costs.

POLICE CALLS: UNQUALIFIED DENTISTS.

BUCHAN-NESS (Scotland).—(1) The police are not entitled to free verbal reports on accidents, sudden deaths, etc. The procedure in connexion with sudden deaths is that the Procurator-Fiscal calls for a report, the fee for such being one guinea. We would recommend our correspondent to refuse information relating to accidents unless asked for in writing, when he should draw up a report for which a fee would be paid. (2) The usual fee for emergency calls by the police is 5s., with double fees at night; but our correspondent must remember that, if called to see a case by a police constable, the local authority may repudiate liability and leave him to recover his fee from the constable. It is a better plan to have an arrangement with the chief constable as to the fees to be paid in cases of emergency. (3) Unqualified dentists adopt various devices to advertise themselves, such as "artificial teeth supplied," "painless dentistry," and also "dental surgery." The Dentists Act, 1878, states that "a person shall not be entitled to take or use the name or title of 'dentist' (either alone or in combination with any other word or words), or of 'dental practitioner,' or any name, title, addition, or description implying that he is registered under this Act." . . . "Any person who . . . not being registered under this Act, takes or uses any such name, title, addition, or description as aforesaid, shall be liable on summary conviction to a fine not exceeding twenty pounds, provided that nothing in this section shall apply to legally qualified medical practitioners." Our correspondent might communicate with the Secretary of the British Dental Association, 19, Hanover Square, London, W.

AT a meeting of the Medical Society of London, on May 13th, the following officers were elected for the ensuing year: *President*, Sir Watson Cheyne, F.R.S.; *Vice-Presidents*, Sir David Ferrier, F.R.S., Dr. William Ewart, Dr. Percy Lush, and Mr. A. E. Barker; *Treasurer*, Sir John Tweedy; *Librarian*, Dr. A. F. Voelcker; *General Honorary Secretaries*, Mr. Edred Corner and Dr. R. A. Young; *Honorary Secretary for Foreign Correspondence*, Dr. F. Parkes Weber. A council of twenty members was also appointed.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

THE following degrees have been conferred:

M.D.—A. Goulston.
M.B.—J. M. Smith.
B.C.—R. J. B. Leney, R. A. Ramsay.

UNIVERSITY OF LONDON.

LONDON SCHOOL OF MEDICINE FOR WOMEN.

Courses and Bursaries for Dental Students.

THE school has received a gift of money for the foundation of bursaries for dental students, and the following course in dentistry has been arranged in conjunction with the National Dental Hospital.

The courses are full courses for women students for the study of dentistry, and in preparation for the Licence in Dental Surgery of the Royal College of Surgeons of England. They will be given at the London School of Medicine for Women and the National Dental Hospital, Great Portland Street, W.

The course is arranged to cover five years:

First and Second Years.—Chemistry, Physics, and Mechanical Dentistry.

Third Year.—Anatomy, Physiology, and Special Dental Courses.

Fourth and Fifth Years.—Courses in Medicine and Surgery, General Hospital Course, Dental Hospital Course.

The combined fees at the London School of Medicine for Women and the National Dental Hospital are £180, if paid in one sum on beginning the course, or £191, if paid in three annual instalments.

The Council of the London School of Medicine for Women will award annually (until further notice) an "Agnes Guthrie" Bursary of the value of £60 to a student fulfilling the required conditions who enters for the full dental course. The first award will be made at the end of September, 1912, for the course beginning in October, 1912. Candidates for the bursary are required to send in applications on or before September 15th, 1912, to the Secretary and Warden, from whom a prospectus of the school and all particulars can be obtained.

UNIVERSITY OF EDINBURGH.

THE following are the numbers of matriculated students of medicine in the University of Edinburgh from 1889 to 1911: 1889–90, 2,003; 1897–8, 1,405; 1900–1, 1,364; 1907–8, 1,487; 1908–9, 1,440; 1909–10, 1,377; 1910–11, 1,374.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

A COMITIA was held on Thursday, May 9th, Sir Thomas Barlow, Bart., K.C.V.O., President, being in the chair.

Admission of Fellows.

The following Members who had been elected at the previous comitia were admitted to the Fellowship:

William Bain, M.D.Durh., Harrogate; Edward John Cave, M.D. Lond., Bath; Robert Briggs Wild, M.D.Lond., Manchester; Henry John Davis, M.B.Camb., London; John Roger Charles, M.D.Camb., Clifton, Bristol; Frank Charles Shrubsall, M.D. Camb., London; Arthur John Jex-Blake, M.B.Oxon., London; Charles Scott Sherrington, M.D.Camb., F.R.S., Liverpool.

Diploma in Tropical Medicine.

The following gentlemen who had passed the requisite examination were, in conjunction with the Royal College of Surgeons of England, recommended for the diploma in Tropical Medicine:

Solimser Azmy, L.R.C.P. and M.R.C.S.; Henry Robert Brown (Major I.M.S.), L.R.C.P. and S.Edin. and L.R.C.P. and S.Glasg.; Ardeshir Koyaji Contractor, L.R.C.P., M.R.C.S., M.B.Lond.; William Alfred Murray, M.B., C.M.Aberd; Denis Joseph FitzGerald O'Donoghue (Capt. R.A.M.C.), L.R.C.P. and S.I.; James Charles Stewart Oxley (Capt. I.M.S.), L.R.C.P. and M.R.C.S., F.R.C.S.Edin.; Reginald Oliver Sibley, L.R.C.P. and M.R.C.S., M.B.Lond.; Satyendra Nath Rey, M.B.Calcutta, F.R.C.S.Edin.

Report.

A report was received from the representative of the College on the Medical Board of the University of Wales (Dr. F. T. Roberts). The President then dissolved the comitia.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary Council was held on May 9th, Mr. R. J. Godlee, President, in the chair.

Grant of Diplomas.

Diplomas of Membership were granted to ninety-five candidates found qualified at the recent examinations.

Diplomas in Tropical Medicine were granted jointly with the Royal College of Physicians to eight candidates found qualified.

Jacksonian Prize.

The prize for 1911 was not awarded.

The subject for 1913 is: The Malformations of the Small Intestine, their Mode of Origin, the Morbid Conditions which Arise from them, and their Treatment. The prize is open to Fellows and Members of the College only.

Donations to the College.

On behalf of Dr. R. C. Priestley, Sir Alfred Pearce Gould present a lithotomy knife used by the late Sir William Fergusson.

Professor Weliaminoff of St. Petersburg, Honorary Fellow of the College, presented to the library twenty-one volumes of the journal, *Archives de Chirurgie*, of which he is editor; two volumes on the Finsen treatment, and one volume on syphilis of joints.

Proposed Memorial to the late Lord Lister.

A letter was read from Sir Archibald Geikie, K.C.B., President of the Royal Society, with reference to a proposed memorial to the late Lord Lister.

The Council agreed to act with the Royal Society, and to nominate representatives to serve on its behalf in connexion with a conjoint project, the character of which is to be hereafter determined.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

AT a meeting on May 14th the following candidates were admitted to the Fellowship:

G. Blair, A. Burton, A. Croll, C. H. Evans, G. A. Hicks, F. E. Jardine, K. B. Kanga, H. Kramer, H. R. Lawrence, M. E. Mackay, J. McPherson, A. P. Mitchell, J. B. de W. Molony, J. I. Parer, G. R. Petersen, D. Rodger, B. P. Sabawala, L. P. Stephen, G. H. Urquhart, E. A. Walker, and N. Wood-Hill.

On the same occasion the Bathgate Medal and Microscope in Materia Medica was awarded to Rachel Mary Barclay, and the Ivison Macadam Memorial Prize in Chemistry to Frank Bertram Macaskie.

CONJOINT BOARD IN ENGLAND.

AT meetings on April 25th and May 9th respectively the licence of the Royal College of Physicians and the diploma of membership of the Royal College of Surgeons were conferred on the following candidates:

E. S. Abraham, R. B. Adams, C. Aldis, J. A. Andrews, D. G. Arthur, T. E. Banister, F. S. Bedale, T. I. Bennett, A. H. Birks, A. B. H. Bridges, D. S. Bryan-Brown, R. E. R. Burn, F. W. Campbell, P. N. Cave, D. G. Cherrington, P. E. Christofferson, J. W. H. Chun, A. J. Clarke, J. J. Clarke, C. J. W. Clayton, C. F. Constant, H. J. Couchman, W. A. Curry, W. E. S. Digby, H. A. Douglas, R. J. C. Douty, G. E. Dyas, W. H. Eggar, J. V. Fiddian, C. E. Freeman, C. A. R. Gatley, W. S. George, H. M. Gilbertson, P. W. Green, G. H. C. St.G. Griffiths, A. S. Hahn, J. W. B. Hanington, L. P. Harris, A. K. Haywood, E. H. Heaton, R. Hodson, J. F. Holmes, A. Jones, R. S. Kennedy, W. S. Lacey, S. Lal, E. A. LeMaistre, A. R. N. MacGillycuddy, R. W. Meller, L. Milton, J. Morris, H. J. S. Morton, E. J. Nangle, V. E. Negus, G. Nelson, F. C. Newman, C. J. Nicholson, R. G. Oram, C. J. B. Pasley, C. L. Pattison, M. Pern, T. H. Phillips, H. Platt, E. G. T. Poynder, T. B. B. Price, J. P. Quigley, M. Radford, H. T. Retallack-Moloney, W. G. Reynolds, G. F. Rigden, L. C. Rivett, F. H. Robbins, H. H. Robinson, E. A. Runting, E. A. Saunders, W. G. Shaw, E. Smeed, G. Stanger, H. F. Stephens, R. P. Stewart, A. Stokes, J. S. Strachan, R. Swyer, C. R. Taylor, W. F. Thompson, A. C. Tibbits, E. A. Tozer, P. Verdon, W. P. Vicary, A. L. J. Vischer, L. C. Walker, R. O. Ward, J. G. Watson, P. Whitehead, F. St. B. Wickham, H. A. Woodruff.

* M.R.C.S. diploma granted April 11th.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

AN advanced course of instruction will be held during the summer term beginning on June 1st, and ending on June 29th. The course comprises: (*a*) Entomology, Professor R. Newstead; (*b*) Helminthology, Dr. J. W. W. Stephens; (*c*) Parasitology, Dr. H. B. Fantham. The fee for the full course is 4 guineas. A certificate will be given at the end to students approved by the professional subcommittee. A detailed prospectus can be obtained on application to Mr. Alan Milne, Secretary of the School, B 10, Exchange Buildings, Liverpool.

Obituary.

GEORGE MACKERN, M.D.,

FORMERLY VISITING PHYSICIAN TO BRITISH HOSPITAL, BUENOS AIRES.

THE announcement of the death of Dr. George Mackern has caused much regret among a very large circle of friends, as well as those who remember him at Guy's Hospital some five-and-thirty years ago. He had a successful career as a student in the medical school of that hospital, and was House-Physician to the late Dr. Hilton Fagge. He took the diploma of M.R.C.S.Eng. in 1876, graduated M.B.Lond. with first-class honours in 1879, and took the degree of M.D. in the same university in the following year.

Soon after completing his appointment at Guy's Hospital he went out to the Argentine, and for the greater part of his professional life he practised as a physician at Buenos Aires. He took a particular interest in the diseases of the respiratory system, but for some time before retiring from practice he had more and more limited himself to the diseases of the larynx. He held for long the appointment of Visiting Physician to the British Hospital, Buenos Aires, and was a very well known and highly respected practitioner in a great and growing city. We are indebted to his friend and fellow student, Dr. J. F. Briscoe, of Alton, Hants, for the following appreciation:

It was at the close of the Seventies, when George Mackern was House-Physician, that I, being another of the residents, was thrown into contact with him; it was the perilous period to the hospital when the old type of nurse was to be deposed for the new nurse of to-day. Many of us now living remember the noise and disturbance that arose one morning among the students of the hospital, when a stately woman in modern nursing garb sailed down the Colonnade into the heart of the hospital. We who knew George Mackern can imagine he was not of the crowd, for he had a soul for music, and very much objected to what musicians call a noise.

Refined and gentle by nature and handsome in outward appearance, Mackern was a student of no mean professional culture. As a follower of the late Drs. Moxon and Hilton Fagge, he became a figure of some importance in the clinical wards of the hospital, held in high respect and regard by the students. He possessed a thorough knowledge of harmony and could readily detect a bad note. Thus he was a good percussor and auscultator at the bedside, often assisting the juniors who were defective in practical acoustics. He seemed to gauge the vibrations of the musical scale as easily as a book is read. His best stethoscope was his unaided ear, and it was only for decency and appearance that he applied a piece of wood between himself and the patient's chest. And, although the binaural stethoscope was just coming into fashion, he seemed to appreciate the new appliance more as a baton of office than as an instrument of precision. I write these few lines of one to whom I was indebted for kindly sympathy, right heartily and with as sincere a regard for him personally as I had for his refined pianoforte rendering of Beethoven, Mendelssohn, or Chopin.

WILLIAM TAYLOR, M.D., M.R.C.S.,

CONSULTING SURGEON TO THE CARDIFF INFIRMARY.

WE regret to learn of the death and burial at sea of Dr. William Taylor, one of the oldest medical practitioners in South Wales. He was born at Jedburgh, in Scotland, eighty-two years ago, and migrated at the age of 6 years to Cardiff. He was apprenticed to the late Dr. Evans; he afterwards entered Edinburgh University, and graduated in 1856. He was appointed House-Surgeon to Cardiff Infirmary in the same year, subsequently filling almost every appointment in those days possible on the honorary staff. He enjoyed a great reputation as a brilliant surgeon, and was made Consulting Surgeon to the institution on his retirement from practice some fifteen years ago. He was the first medical man to use chloroform in Cardiff, and described with great relish the horror of his colleagues at a proceeding they regarded as risky.

But it was as a public man that Dr. Taylor will be best remembered. He did work on the library and educational committees, and was Mayor of Cardiff in 1877. For some years past he had been chairman of the licensing bench, and was a regular attendant at Llandaff Police Court. He was at the time of his death Chairman of the Cardiff Gas Works, a very large and flourishing concern, and his election to that post in 1908 is evidence of the wonderful alertness and business acumen he retained. His memory was accurate to the smallest detail, and he well remembered events as early as the opening of the Taff Vale Railway in 1840. He was at one time Surgeon-Colonel in the Volunteers, and for many years Medical Officer to Cardiff Post Office. Dr. Taylor leaves four sons and one daughter; his son, Dr. Arthur Taylor, succeeded him in practice some years ago. The voyage on which Dr. Taylor died was undertaken to allow him to recuperate after an operation he underwent recently.

A memorial service at St. John's Church on Saturday last was attended by representatives of practically every section of the public and of the numerous bodies with which he was connected.

THE fourth Congress of Physical Education will be held in Rome at the same time as a series of gymnastic displays in June next (21st to 24th). The previous Congresses were held in Paris, Liége, and Brussels. Excursions and festivities are being organized for the occasion.

Medical News.

A UNIVERSITY with faculties of Medicine, Law, Engineering, Agriculture, Commerce, Pedagogy, and Political Science is to be established at Bangkok, the capital of Siam.

UNDER the will of the late Mrs. Cadwalladr, of Swansea, the General and Eye Hospital in that town receives a bequest of £2,000.

AN examination for twelve commissions in the Indian Medical Service will be held in London on July 22nd and the five following days. Further particulars and forms of application can be obtained from the Military Secretary, India Office, S.W.

AMONG those expected to speak at the annual meeting of the Children's Country Holiday Fund at the Whitehall Rooms next Tuesday afternoon are Mr. Austen Chamberlain and Mr. Pett Ridge. The chair will be taken by Princess Victoria of Schleswig-Holstein.

THE Ingleby Lecture of the University of Birmingham will be given this year by Mr. J. Furneaux Jordan, Surgeon to the Birmingham Hospital for Women and the Maternity Hospital, in the medical lecture theatre, at 4 p.m., on Thursday next, May 23rd. The subject of the lecture is puerperal infection.

AT a meeting of the Medico-Legal Society at 11, Chandos Street, London, W., on Tuesday next at 8.30 p.m., Mr. W. Wynn Westcott, M.B., will contribute a note on the burning of a newborn child, and Mr. D. H. Pettit will read a paper on the distinction between accident and disease under the Workmen's Compensation Act.

A GOOD many charities in Nottingham benefit under the will of the late Mrs. Elizabeth Greaves, whose will has recently been proved. Among them are the General Hospital, the Dispensary, Nottingham and Midland Eye Infirmary, and the Samaritan Hospital for Women, each of which is entitled to one-ninth share of her residuary estate. This appears to be about £40,000.

A REUTER'S telegram announces that Yuan Shih-kai has sent a letter to Dr. Gray, surgeon to the English Charitable Hospital, Peking, thanking him for the services rendered to the wounded during the night of the riots at the end of February, when the soldiers in Peking looted and burned many parts of the city. Accompanying the letter was a donation of 500 dollars to the hospital.

THE next general meeting of the Medico-Psychological Association of Great Britain and Ireland will take place at 11, Chandos Street, London, W., on Tuesday, May 21st, when the president, Dr. W. R. Dawson, will take the chair at 5.15 p.m. The discussion on Dr. Bernard Hart's paper on a case of double personality will be resumed, and papers will be read by Dr. Robert Jones on the classification of dementia, and by Dr. J. F. Briscoe on appendicitis in asylums.

THE annual dinner in London of the officers of the Indian Medical Service will be held on Thursday, June 13th, at the Hôtel Cecil at 7.45 p.m. Further particulars can be obtained from Lieutenant-Colonel P. J. Freyer, 27, Harley Street, W. Sir Alexander Christison, Bart., will preside at the annual Edinburgh dinner of officers of the Indian Medical Service, to take place at the Caledonian United Service Club, Edinburgh, on Friday, May 31st.

THE one hundred and thirtieth Harveian Festival will be held in the hall of the Royal College of Physicians on Friday, May 31st. The Society will meet at 6.45 p.m., when the president, Dr. Charles Watson MacGillivray, will give the Harveian Oration on "Some Memories of Old Harveians, with Notes on their Orations." Dinner will follow at 7.30. Every Harveian is requested to let the secretaries know, by letter, whether he means to attend the festival.

THE annual conversazione of the Medical Society of London will be held on Monday next. At 9 p.m. Mr. J. Bland-Sutton will deliver the annual oration, the subject selected being fertilization in relation to pathology. During the evening Sir Thomas Boor Crosby, Lord Mayor of London, will be admitted an honorary fellow of the society. There will be an exhibition illustrating the history of the society and some of the society's bibliographical treasures will be shown.

IT is announced that the President of the United States has chosen a successor to his aide-de-camp, Major Butt, who went down with the *Titanic*, from the Army Medical Corps. This officer is Surgeon-Major Thomas L. Rhoades, who has been in charge of the Walter Reed Hospital, Washington, and is said to be the first military medical officer ever selected to discharge the duties of aide-de-camp to the President.

ONE of the subjects dealt with at the May meeting of the Council of the National Federation of Ophthalmic Opticians, held at the Crown Hotel, Newcastle-upon-Tyne, was a proposal put forward by Mr. R. E. Heppell, of Gateshead, that the Federation "institute an examination of a practical kind and at a nominal fee." There seemed, he added, to be no hope of the two examining bodies—the Worshipful Company of Spectacle Makers and the British Optical Association—coming together, and consequently little or no progress could be made with the movement for opticians obtaining what they desired—namely, State recognition. Mr. E. Beaumont said that the West Riding Optical Society was strongly against the institution of another examination; and Mr. Thomas Aikenhead, President of the Scottish Optical Association, said he was instructed to vote against the resolution. Mr. J. C. Kidd, President of the Federation, also spoke against the resolution, as did Mr. A. Hershberg, Manchester and North of England Optical Society. Those in favour of the proposal included Mr. L. Moreton Parry, Honorary Secretary to the Liverpool and North Wales Optical Society, and Mr. J. C. Peacock, Past-President of the Northern Counties Optical Society. When a vote was taken, the Chairman announced that Mr. Heppell's resolution had been lost by a majority of one. The annual conference of the Federation will be held in Manchester on July 10th and 11th, and it is expected that the Lord Mayor of Manchester will give the conference an official welcome. It was announced that Dr. William Ettles, of London, would deliver an address on the system to be followed in examining the eyes, and Professor Haldane Gee, of Manchester, on the physical and chemical actions of sight.

A FAMILIAR poster depicts Father Neptune in mid-ocean sending healthy breezes from the Bank of England to Shepherd's Bush. This is only a pictorial way of conveying the fact that the Central London Railway, which has hitherto been ventilated on an exhaust system, has now adopted a new method by which the air supplied to its thirteen miles of tunnel is purified and mixed with ozone. At the invitation of the directors of Ozonair, Limited, a number of journalists and others recently had the opportunity of inspecting this arrangement. To reventilate an underground railway represents a constructional work of no small magnitude. A separate plant has had to be installed at each station, and to be so disposed as to fit in with the pre-existing conditions, which vary all along the line. The incoming air above-ground is drawn by an electric fan through special filtering screens, which are kept moistened and free the air from floating matter and from certain gases. The slight admixture of ozone is obtained from an ozone-generating apparatus, consisting of a series of mica plates and sheets of metallic gauze, the latter connected with a small transformer delivering alternating current. The cooled and ozonized air is then distributed, some of it to the booking-halls and lavatories, but in its main volume to the tunnels. It is conducted down the shafts by means of large sheet-metal conduits to a number of air outlets placed at a height of 7 ft. above the platforms. A larger air outlet is placed in the tunnel 40 ft. beyond the end of the platform, so that the trains by suction carry the freshened air from station to station. The amount of ozonized air pumped into the railway every day is stated to be eighty millions of cubic feet, and the concentration of ozone on the platforms is usually one part in about two millions. At a luncheon after the press inspection Dr. Leonard Hill sounded the praises of ozone, which, he said, relieved atmospheric monotony, neutralized unpleasant smells, and gave to the air a slightly stimulating value for the respiratory tract and the nerve endings. It was stated that after some months of use the railway officials declared themselves to be very well satisfied with the arrangement, and that it was appreciated by the public. The importance of the ventilation of tube railways from the point of view of the health of the community may be judged from the estimate that there are seldom fewer than 4,000 persons, and at certain times of the day as many as 10,000, on the Central London system alone.

The Services.

ROYAL NAVY MEDICAL SERVICE.

IN the list of prizes gained by acting surgeons of the Royal Navy at the termination of the course at Haslar on April 16th, published in the JOURNAL of April 20th, page 931, the following corrections are to be made: Surgeon Alfred B. Clark, M.B., gained the Admiralty Prize for the Naval hygiene group of subjects; Surgeon C. H. Symons gained the Silver Medal, but not the Admiralty Prize, as stated.

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, London, W.C.; those concerning business matters, advertisements, non-delivery of the JOURNAL, etc., should be addressed to the Office, 429, Strand, London, W.C.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Attiology, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, London.*

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

ACID-FAST wishes to study the German system of sanatoriums and tuberculosis dispensaries (if any), and desires information as to the best places in Germany to see these institutions at work.

*** The Report on Sanatoriums for Consumption and Certain Other Aspects of the Tuberculosis Question, made by the late Dr. H. T. Bulstrode to the Local Government Board in 1908, is illustrated by a useful map indicating the German tuberculosis institutions drawn by Professor Pannwitz (Berlin), and completed by Dr. Neitner, general secretary of the German Central Committee for the erection of sanatoriums for consumption.

SUFFOCATION.

A WITNESS would like to know: (1) If there are any grounds for the belief that a person feeling symptoms of impending suffocation clutches at his throat; and (2) if there are, then whether anyone has ever actually seen such a person clutch at his throat.

VALUE OF PART SHARE.

H. E. S. writes: My practice is worth £1,000 per annum gross, and I am going into partnership with two men here whose combined gross income is £2,466 per annum. How much purchase money should I give in order that we may all have an equal share of our combined total? Each of their respective gross incomes is £233 in excess of mine. Am I correct in saying that I am buying one-third share of £466—that is, £155 6s. 8d., which at two years' purchase would equal £310 13s. 4d.?

*** Our correspondent's suggestion appears to be reasonable. It might even be a question whether the increase he is buying is worth more than one year's purchase, but this would depend on the character of the practice.

FIRST COUSIN MARRIAGES.

MR. MACLEOD YEARSLEY asks readers who are in a position to do so to give him information as to any *first* cousin marriages of which they may be aware. The information required is: (1) Whether the contracting parties are themselves the offspring of (*a*) two brothers or two sisters; (*b*) a brother and sister respectively. (2) The physique and intelligence of the children of such cousin marriages. He will be greatly obliged for any information sent to him before the end of June.

ANSWERS.

DR. L. D. PARSONS (Gibraltar) writes in reply to "J. H." (BRITISH MEDICAL JOURNAL, May 4th, p. 1051): I would strongly recommend the patient's treatment by tuberculin if no home can be got for her.

EFFECT OF SCOPOLAMINE AND MORPHINE IN LABOUR ON THE CHILD.

DR. HENRY G. MASSEY-MILES (St. Albans) writes: With regard to Dr. J. G. Hayes's query, may I mention that my small experience of scopolamine and morphine in labour extends to 19 cases—14 primiparae and 5 multiparae. Despite the fact that in 3 of these cases the scopolamine was repeated, and that 6 were instrumental and one required internal version, in no case have I experienced any trouble with the child. That one must not be too ready to blame the anaesthetic for ill effects is shown by one case in which I had intended to administer the drug, but was prevented from doing so by the timely (or untimely?) smashing of my glass syringe; the child was born in a state of blue asphyxia. In all these cases the room was heated by an ordinary coal fire.

LETTERS, NOTES, ETC.

ERRATUM.—In the notice of the Royal Academy Exhibition published last week, page 1091, the name of Mr. John Coles, chairman of the Clerical, Medical, and General Life Office, was incorrectly spelt.

PROPOSED PUBLIC MEDICAL SERVICE.

DR. R. R. RENTOUL (Liverpool) writes: As a number of doctors have asked me to send my draft rules *re* the above, may I tell them, per the JOURNAL, that they can be seen in the *Medical Press* of May 1st, which can be had from Baillière, Tindall, and Cox, 8, Henrietta Street, London, W.C., price 5½d.

IODINE DISINFECTION.

DR. F. PRYCE JONES (Newtown, Mid-Wales) writes: In regard to the recent controversy on the use of iodine for skin disinfection, a friend of mine—an old Guy's man—says that he remembers Mr. Bryant using either tincture or liniment of iodine for that purpose about the year 1878 or 1877. One case in particular he remembers on account of Mr. Bryant remarking that he could get as good results by that means as others could by the then new antiseptic system, but unfortunately it failed in that case (an excision of knee), and my friend does not remember seeing it used afterwards.

MELAENA NEONATORUM.

DR. W. M. FELDMAN (London, E.) writes: Several cases of melaena neonatorum have recently been reported in the BRITISH MEDICAL JOURNAL, and the issue for May 11th contains a record of a case by Dr. Morrison, in which he remarks that he could find no reports of similar cases in which the child recovered, and that during thirty years' general practice he had never seen a similar condition. If he refers to the BRITISH MEDICAL JOURNAL for February 15th, 1905, he will find a complete account and a discussion by Dr. Morris and myself of a case of haematemesis and melaena in an infant 2 days old, probably due to gastric ulcer, which recovered. I have recently seen the boy, who is now a grown-up, well-developed child. About three months ago I came across another case of melaena in a male infant of 2 or 3 days old, which also completely recovered under grain doses of calcium chloride three times a day.

BROMOCARPINE.

DR. G. ARBOUR STEPHENS (Swansea) writes to say that he has prescribed bromocarpine owing to the statement that the bromide salt it contains is free from chlorides, and that this is a virtue not possessed by bromide salts usually dispensed by chemists.

*** Most of the bromide in use contains considerably less than ½ per cent. of chloride, and it would be quite exceptional to find any dispensed by chemists containing as much as 1 per cent. Some time ago, however, it was shown that some American makes contained as much as 6 per cent. Presumably, ½ per cent., or less, would be of very little consequence.

A CORRECTION.

IN the list of members of the Association who had died during the past year, printed in the Annual Report of Council for 1911, published in the SUPPLEMENT last week, p. 452, the name of Dr. John James Goodlatte Murray was incorrectly given, the surname Murray being omitted in error.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Eight lines and under	0	4	0
Each additional line	0	0	6
A whole column	2	13	4
A page	8	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *postes restante* letters addressed either in initials or numbers.